An investigation into the relationships between attachment style, health-beliefs and health behaviours.

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An Investigation into the Relationships between Attachment Style, Health-Beliefs and Health Behaviours.

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Abstract

This dissertation aimed to investigate relationships between attachment theory, health-beliefs and health behaviours. It was hypothesised that there would be significant differences between attachment groups (Secure, Anxious-ambivalent and Avoidant) with regard to certain health beliefs and health behaviours and that such results would be influenced by gender and negative affect.

In comparison to insecurely attached male and female participants, securely attached male and female participants were more concerned with looking after their physical and psychological health. Securely attached participants reported higher levels of current health status, and were less anxious about their current and future health. They were more responsible for their health in terms of internal locus of control and had greater expectations for their future health status. They also reported feeling less concerned about how others perceived their health, and were more motivated to look after their physical and psychological health through the use of health promoting behaviours (physical activity, spiritual growth, social support, stress management). In contrasting avoidant and anxiously attached participants, avoidant participants were least concerned with seeking social support and reported significantly lower levels of health promoting behaviours. It is noted that the health beliefs and health behaviours of avoidant male participants appeared to place them at greatest risk of poor physical and psychological health.

Increased negative affect and insecure attachment were found to have a significant influence upon participants' anxieties about their health, their concerns about others opinions about their health, as well and their ability to maintain their psychological health through the use of stress management techniques.

The results were broadly in line with and extend the findings of previous research. These findings will be discussed in relation to their implications for clinical practice, further research and service development, and a new model of attachment, health beliefs and health behaviours is proposed.

CHAPTER 1

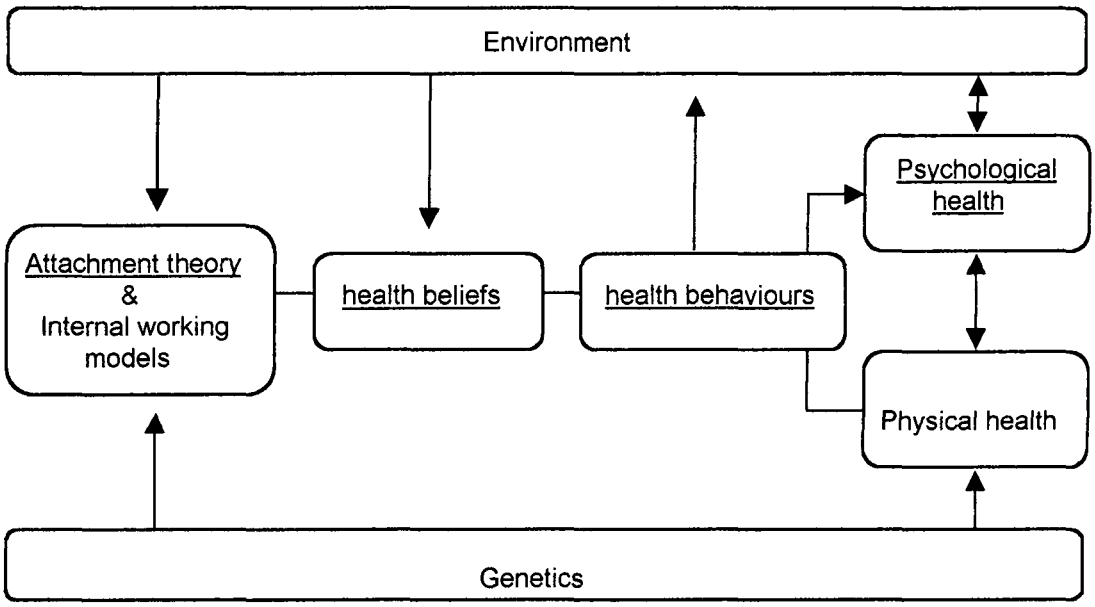
Literature Review

1.0 Introduction

1.1 Background to the study

This study seeks to apply insights from attachment theory to health beliefs and health behaviours in a student population. I was drawn to this study as a result of clinical experience gained whilst on a physical health placement during the course of my Counselling Psychology training. I had already developed considerable interest in the area of attachment theory and I became more aware of potential links between this area of research with health beliefs, health behaviours and their influence upon physical and psychological health that are underlined in figure 1.1.

Figure 1.1. Illustrating links between attachment theory, health beliefs, health behaviours and psychological and physical health.



A small but growing body of research (e.g. Feeney, 1994; Feeney, 1995; Feeney & Ryan, 1994; Kotler, Buzwell, Romeo, & Bowland, 1994), will be reviewed with regard to these links. The findings of this research suggests that attachment theory, with its emphasis upon life-span development offers a potentially useful model through which to better understand the vast literature on health beliefs, health behaviours, and the interactive relationships between physical and psychological health throughout the life-cycle.

In outlining the role of psychology in health and illness, Roslyn Corney (1996) suggests that the research on health beliefs that has proved vital in the understanding of health behaviours has been influential in guiding psychological interventions on three levels: (i) primary prevention (e.g. health promotion campaigns), (ii) early detection and treatment (e.g. breast screening), and (iii) patient care and support (e.g. therapeutic activities aimed at reducing disabilities and facilitating adjustment to disease and handicaps). By way of introducing the study I will now briefly review some of the literature on health beliefs in relation to its utility in facilitating direct and in-direct health care in these three areas.

Health behaviours are defined as those activities engaged in by people who are basically healthy that have an impact upon their health status (Kasl & Cobb, 1966). Part of this classification includes seeking information about one's general physical and psychological health from a variety of sources (GPs, dentists, counselling psychologists), but also includes health protective behaviours (e.g. contraception, an awareness of stress symptom triggers), health promoting behaviours (e.g. eating a good diet, using relaxation techniques), and necessarily health-risk taking

information (e.g. needle sharing, and overworking). In this regard it can be seen that to a greater or lesser extent we all engage in both 'positive' (health enhancing) and 'negative' (health-risking) health behaviours as part of our lifestyles. Health beliefs play a vital role in this process (see Petrie & Weinman, 1997). For example, recent reviews of research suggest there is now considerable evidence that suggests that health beliefs have an important mediating role in influencing the uptake of regular exercise (Owen & Vita, 1997) or attendance at breast screening clinics (Cameron, 1997). Furthermore, health beliefs have been shown to be vital in the understanding and treatment of specific medical and psychological conditions that involve a high degree of patient compliance to treatment regimes, such as diabetes (Hampson, 1997), recovery from heart disease (Petrie & Weinman, 1997), rheumatoid arthritis (Pimm, 1997) and eating disorders (Wilson & Fairburn, 1993). In addition, links between physical and psychological health are well known. For example, people often present (or are referred) for counselling with psychological difficulties of which poor physical health-care is but a symptom of intra-psychic conflicts (McDougall, 1989).

In summary, this section has presented the reader with a number of related concepts that are central to this study. In order to identify further links, these concepts will be defined and clarified in order to outline the structure of the argument that will form the basis and aims of this thesis. In introducing this study it is first important to explain and describe the essential core concepts of attachment theory.

1.2 Attachment theory

Attachment theory: Behavioural control systems

Attachment theory first developed by John Bowlby (1969; 1973; 1977; 1979; 1980; 1982; 1984; 1988) and later researched and developed by Mary Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978; Main, 1985), rests on the concept of an attachment *"behavioural control system"*. Bowlby regards this to be an innate homeostatic system that regulates proximity-seeking and contact-maintaining behaviours with one or a few specific caregivers, or *attachment figures* (usually the mother). These figures directly provide the physical and psychological conditions necessary during the child's early months of life. Ideally they indirectly enable the child to construct an internal sense of *felt security*, that will enable the child to independently explore its environment (Sroufe & Waters, 1977).

Bowlby (1984) suggests that the operationalisation of behavioural control systems *per se* is best explained in terms of *activation* and *deactivation.* It is presumed that a set of specific environmental conditions (i.e. threats) trigger the activation of the attachment system. Conditions that activate attachment behaviour in infants are of three major types: environmental conditions, such as alarming events and rebuffs by adults or other children; conditions within the attachment relationship, such as absence, departure, or discouraging of proximity on the part of the care-giver; and with important regard to this study, conditions of the child, such as fatigue, pain, and sickness. In the presence of these threats the infant begins to engage in *proximity seeking behaviours* through a process called *separation protest* (calling, seeking,

crying, gazing, or touching). These behaviours are intended to re-establish proximity towards the caregiver. Once achieved, the infant alters its behaviour to *proximity-maintaining/seeking behaviours* (hugging, cooing, smiling, and clinging). If proximity is maintained then the system is deactivated, and the infant can use other behavioural control systems such as feeding, or exploration. Attachment theory presumes that in order for this process of activation and deactivation to operate smoothly, the infant develops an *internal working model* of the attachment figure.

Attachment theory: Internal working models.

Bowlby (1982) conceptualises internal working models as loosely defined structures in which memory, knowledge, experiences, and affect, are integrated and used as the basis upon which to process new information and direct actions. Internal working models are "re-transcriptions" of past memories and a synthesis of past and present attachment experiences with their attachment figure(s). Although these models largely function automatically and outside of conscious awareness, they have the capacity for rigidity and flexibility throughout the life span. The models become more open to change when the individual recognises contradictions between their working models and their own experience (Bretherton, Ridgeway, & Cassidy, 1990). The development and operation of the attachment system runs alongside the behaviours of the attachment figure, and as such creates a template to guide the infant's and later the adult's expectations in all present and future relationships.

Bowlby did not carry out research to prove and extend his theoretical ideas. Mary Ainsworth and her colleagues (Ainsworth et al. 1978) were the first researchers to develop and operationalise Bowlby's theory within the clinical environment. They provided empirical evidence that identified the qualities of parenting which have now been associated with the development of childhood '*patterns*' of attachment, later adult attachment '*styles*', and the inter-generational transmission of attachment (Berman & Sperling, 1994).

1.3 Attachment patterns and attachment styles

In order to test out some of Bowlby's ideas, Mary Ainsworth and her team (Ainsworth et al. 1978) developed a laboratory environment known as the "strange situation". In this experimental situation a child's attachment and separation behaviours are first elicited and recorded in response to the enforced separation and reunion with the child's attachment figure. These behaviours are then recorded in response to a stranger's presence (both tried to engage the child using a selection of toys). Their findings indicated two distinct patterns of infant attachment; 'Secure' and 'Insecure', with two insecure sub-categories being termed *'Anxious-Ambivalent'* and *'Avoidant'*. A summary of Rothbard & Shaver's (1994) review reflecting associated patterns of received care and the child's attachment response is outlined in Table 1.1. overleaf.

Table 1.1. Characteristics of the three major infant attachment patterns (summarised from Rothbard & Shaver, 1994).

Attachment pattern	*Quality of care-giving*	*Child's attachment response*
Avoidant (Group A)	Rejecting; rigid; hostile; averse to emotional and physical contact	Detachment behaviours; avoidance of contact to caregiver.
	Three types of care-giver behaviour;	
	1. Hostile, demanding behaviour	Compulsive compliant behaviours borne out of the child's wish to appease
	2. Rejecting	Compulsive compliant behaviours if child is needy, or compulsive self-reliance as an angry or defensive response aimed at reducing the risk of loss.
	3. Withdrawn and unresponsive	The child neither feels safe or secure and uses compulsive care-giving behaviours to try to elicit caregiver responses.
Secure (Group B)	Available; responsive; warm.	Active exploration; upset by Separation but positive response to caregiver.
Anxious-Ambivalent (Group C)	Intrusive; insensitive; inconsistent response to infant communications.	Protest behaviours; distress at separation; angry-coy behaviours towards caregiver as a coping response to cover the child's vulnerability.

These attachment groups are defined in terms of infant responses and the sensitivity of the caregivers to their infants' needs. Group A (Avoidant) children respond in a defensive way and avoid close contact. Group B (Secure) children are sociable and tend to explore their environment; whereas Group C (Anxious-Ambivalent) children respond with anxious and clinging behaviours or angry rejecting responses to their caregiver. Subsequent researchers (e.g. Main & Hesse, 1990; Crittenden, 1985) proposed two alternative fourth groups: termed the 'Disorganised' group (Group D) and the 'A-C' group. Broadly these infants appear to view their caregivers as frightening, and are very unsure of what behaviour to adopt in the presence of their parent(s). In this situation, infants adopt a variety of behaviours that can be

described as 'avoidant' and 'resistant.' Such behaviours include the infant giving close attention to the caregiver's behaviours upon reunion, or the infant adopting self-protective behaviours such as covering the face, laying prostrate or maintaining a "frozen" posture.

Research evidence now exists to suggest that these attachment patterns are stable through childhood into adolescence and early adulthood (Rothbard & Shaver, 1994; Main, 1995). Longitudinal studies by Grossmann and Grossmann (1991), and Elicker, Egeland, & Sroufe, (1992) followed samples of children into pre and early adolescence (after being assessed using the Strange Situation at 18 months). Grossmann and Grossmann (1991) examined a sample of German children from infancy to 10 years of age and observed differences in adaptation similar to those found by previous researchers. More recently studies by Hamilton (1995) and Waters, Merrick, Albershelm, & Treboux, (1995) have extended evidence in favour of the continuity hypothesis up to the ages of 16 and 20 years. In summary, the majority of the reviewed attachment research powerfully suggest that infant-mother attachment (assessed at one year) is an important predictor of social competence and self-esteem through childhood into adolescence and adulthood.

Adult attachment styles

Hazan & Shaver's (1987) groundbreaking study hypothesised that the three child attachment styles identified by Ainsworth et al. (1978) were commensurate with three similar adult attachment styles also termed 'Avoidant', 'Anxious/ambivalent', and 'Secure'. To test this theory Hazan & Shaver devised a measure of attachment, the Adult Attachment Questionnaire (AAQ), that they used to assess the attachment histories of older adolescent and adult participants. The AAQ uses three prototypical

descriptions of three major adult attachment styles (Secure, Avoidant, Anxious-ambivalent) and participants have to indicate which they feel best describes their experiences within romantic relationships. As predicted, they found that secure respondents had more positive models of self, reported more favourable recollections of parental relationships, and had experienced more positive romantic relationships than had insecure individuals. Of the insecure group, those who defined themselves in avoidant terms described their mothers as cold and rejecting, focused on fear of intimacy and expected that love relationships were doomed to fail. The anxious-ambivalent group described their mothers' parenting as being unpredictable, intrusive and inconsistent, talked about emotional jealousies, and reported more intense sexual passion.

Internal working models are based upon experiences within early relationships and have a special influence as they may account for emotional and behavioural differences across the attachment groups (Sameroff & Chandler, 1975). Given that working models centre around the regulation and fulfilment of attachment needs, they are most likely to be activated automatically when attachment-related (stressful) events occur (Collins & Read, 1994). Collins & Read suggest that working models should be thought of as a set of four inter-related components:

1. Memories of attachment-related experiences (particularly those involving the primary attachment figure).
2. Beliefs, attitudes, and expectations of self and others in relation to attachment.
3. Attachment related goals and needs.
4. Strategies and plans for achieving attachment-related goals.

Using these four components, Feeney & Noller, (1996) summarised the research literature using the diagram below (table 1.2. overleaf).

Table 1.2. Displaying differences in working models, attachment behaviours, with attachment styles.(from Feeney & Noller, 1996: 98)

Secure	Avoidant	Anxious-Ambivalent
1. Memories of parenting		
Parents warm, loving, sensitive emotionally responsive to needs	Parents not particularly warm, or nurturing, uninvolved	Loving part of the time, but also inconsistent, and unresponsive. Sometimes intrusive
	Feelings of being rejected	Father perceived as being unfair
2. Attachment-related beliefs and attitudes		
Few self-doubts; high in self-worth	Suspicious of human motives	Others are complex and difficult to understand
Generally liked by others	Others not trustworthy and / or dependable	People have little control over their own lives
Others viewed as generally well intentioned and good-hearted	Doubt the honesty and integrity of parents and others	Others are seen as unpredictable and anxiety provoking, vigilance is an
Others viewed as generally trustworthy, dependable, and altruistic	Lack of confidence in social situations	overcompensation against further loss
Interpersonally orientated	Not interpersonally orientated	
3. Attachment-Related Goals and Needs		
Desire intimate relationships	Need to maintain emotional distance	Desire extreme intimacy
Seek balance of closeness and autonomy in relationships	Limit intimacy to satisfy autonomy and independence needs	Seek lower levels of Autonomy and higher Dependency
	Place greater weight on goals	Feared rejection and loss such as achievement
4. Attachment-Related Behaviours		
Acknowledge distress	Manage distress by minimising anger expression	Heightened displays of distress and anger to get a response
Modulate affect in constructive way	Minimise distress-related emotional displays, without intimate disclosure	Solicitous and compliant to gain acceptance

Other evidence linking internal models with attachment behaviours has been reported in a review by Kim Bartholomew (1990, 1993). Bartholomew has elaborated Hazan & Shaver's tripartite model and has argued that the existence of two underlying dimensions define attachment styles: models of self (positive-negative) and models of others (positive-negative) that has since gained considerable empirical support (Feeney & Noller, 1996). These dimensions define four possible attachment styles and are termed: *Secure* (positive models of self and others); *preoccupied* (cf. anxious-ambivalent; negative models of self and positive models of others); and two avoidant styles - *dismissing* (positive models of self and negative models of others) and *fearful* (negative models of both self and others). See figure 1.2 below.

Figure 1.2. Bartholomew's (1990) four-group model of attachment.(from Feeney & Noller, 1996: 52)

		Model of self (Dependence)	
		Positive (Low)	**Negative** (High)
Model of other (Avoidance)	**Positive** (Low)	**Secure** Comfortable with intimacy and autonomy Overly dependent	**Preoccupied** Preoccupied (Main) Ambivalent (Hazan & Shaver)
	Negative (High)	**Dismissing** Denial / dismissing of attachment Dismissing (Main) Counter-dependant	**Fearful** Fearful of attachment Avoidant (Hazan & Shaver) Socially avoidant

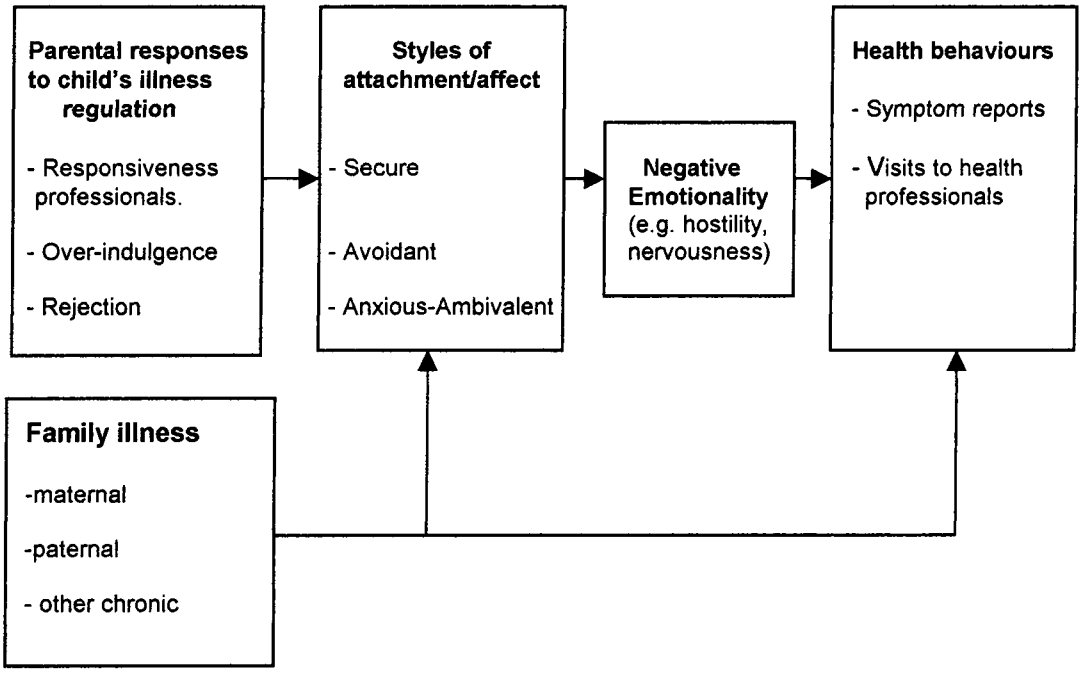
As can be seen from this review, Attachment theory offers a useful theoretical and clinical model in the understanding of psychological and interpersonal difficulties both in terms of the origins of an individual's difficulties and patterns of maintenance. Bowlby (1984) also suggested that attachment theory has much to offer in the understanding of how an individual experiences ill-health and how their early experiences define their patterns of health behaviours. These issues will now be examined in the next section.

1.4 Attachment , coping and health behaviours

Bowlby's (1984) proposition that physical and psychological health behaviours can be understood in terms of attachment style has been expounded most fully by Feeney & Ryan, (1994). They suggest that health behaviours are associated with early family experiences of illness, and parental responses to care-seeking behaviours and is supported by theory relating attachment style to affect regulation (Bowlby, 1988; Cassidy, 1994). According to attachment theory, attachment styles develop from experiences of regulating distress with attachment figures and reflect rules that by generalisation, guide responses to any distressing situation. Specifically, secure attachment stems from responsive care-giving and reflects rules that allow the person to acknowledge distress and turn to others for support. Avoidant attachment develops in the face of rejection and shame from caregivers and reflects rules restricting acknowledgement of distress and seeking support, whereas anxious/ambivalent attachment develops from insensitive or inconsistent caregiving and involves hypervigilance to negative affect (Sroufe & Waters, 1977; Kobak & Sceery, 1988; Cassidy, 1994; Maglai, 1999).

Feeney & Ryan (1994) proposed a comprehensive model linking attachment style and health variables (see figure 1.3 below). This model includes five key components; early family experiences of illness, parental responses to the child's illness, attachment style, and negative emotionality (e.g. nervousness, hostility) which together influence health behaviours.

Figure 1.3. Feeney & Ryan's (1994) theoretical model linking family and attachment variable to health behaviour. (Taken from Feeney & Noller, 1996: 88)



According to the model, early experiences of family illness (frequent or serious illness in members of immediate family, and parental responses to the child's physical complaints) are likely to exert a direct influence on adult health behaviours. Early family experiences of illness may also influence the development of attachment style by affecting the availability and quality of parenting.

Because of the findings of the continuity hypothesis that were reviewed earlier, Feeney & Ryan suggest that attachment style is likely to have implications for health behaviours both in childhood and adulthood. For example, anxious-ambivalent persons are thought to show heightened awareness of distress and generally perceive events negatively and for this reason, they may be prone to reporting many symptoms, certainly more so than avoidant persons. This has been confirmed by Lewis, Fiering, McGoffog & Jaskir (1984) who found that boys classified as insecure at 12 months reported higher levels of somatic complaints at age six. Kobak & Sceery (1988), also found that avoidant adolescents reported fewer psychiatric and medical symptoms than anxious/ambivalents, and Hazan & Shaver's (1987, 1990) studies on adults found that both anxious and avoidant individuals reported higher levels of psychosomatic, physical and psychological illness (e.g. gastrointestinal problems, colds, flu, and anxiety and depression).

Associated with this tendency Feeney & Ryan include negative emotionality (e.g. anxiety, fear, hostility) there being evidence to suggest that there are similarities between the ways in which such emotions were handled by the individual in relation to caregivers both as a child and in later adulthood (Maletesta & Haviland, 1982; Maglai, Cohen, Gomberg, Maletesta & Culver, 1996). Feeney & Ryan included this variable because of evidence suggesting that this variable affects perceptions of health status and personality-related styles of stress–management such as exaggeration and minimisation (Watson & Pennebaker, 1989). Hence Feeney & Ryan suggested that avoidant individuals would tend to adopt a deactivating attentional strategy, accompanied with affect inhibition or minimisation. They also suggest that avoidant individuals would tend to become self-reliant in response to

their expectancy that expression of their concerns and worries will evoke discomfort and further rejection from the caregiver. In contrast they also suggested that anxiously attached individuals would tend to heighten their affective levels as a result of their inability to soothe themselves and their anxieties about eliciting care from their caregivers (Birtchnell, 1988).

Feeney & Ryan tested their model in a short-term longitudinal study, where they asked 287 university students to complete self-report measures of: family background (incidences of familial illness and memories of familial responses to family illness), attachment style (using Hazan & Shaver's 1987 forced choice measure), negative and positive emotionality (measured by the Multidimensional Personality Questionnaire, Tellegen, 1982), health behaviours (measured by the Pennebaker Inventory of Limbic Languidness: Pennebaker, 1982), health-care utilisation (number of visits to health professionals in the previous 10 weeks) and health status (numbers of admissions, days in hospital, and medications used in the previous 10 weeks). Participants completed all measures at both Time 1 and Time 2 (ten weeks apart).

On the basis of regression analyses, early family experiences of illness were found to be linked with adult health behaviours and gender with symptom reporting. For example, there were significant associations between participants who reported chronic illness in the immediate family during their childhood and the number of visits to health professionals. Early family experiences of how parents responded to illness were also linked with respondents attachment style. Participants who reported that their parents had been over-indulgent when they complained of ill

health were related positively to anxious-ambivalent attachment and negatively to avoidant attachment. In addition, it was found that parents who often cut back on their normal activities because of ill health were related to insecure forms of attachment. Unlike previous reviews of research, being female was weakly associated with security of attachment (see Feeney & Noller, 1996). But as with previous research, being female was also associated with negative emotionality and increased symptom reporting (see Hansell & Mechanic, 1985; Jörgensen & Richards, 1989). No age related effects were found[1].

In terms of the implications of attachment style for adult health behaviours, two key findings emerged. First, as expected, anxious-ambivalent attachment was linked with increased symptom reporting, but this link weakened when the influences of negative emotionality and being female were taken into account. Second, avoidant attachment was inversely related to visits to health professionals. Even when the level of physical symptoms was controlled, this association remained reliable. Gender was unrelated to visits to health professionals.

These findings are generally consistent with links between attachment and affect regulation mentioned earlier (Cassidy, 1994). Previously reviewed research suggests that ambivalent attachment appears to involve an affect enhancing attention to distress in relation to negative emotionality, trait anxiety, low self-esteem and neuroticism, whereas avoidant attachment is associated with a deactivating

[1] It is noted that studies that have examined the relationship between age and gender (e.g. Cameron, Leventhal & Leventhal, 1993; Leventhal, Leventhal Schaefer & Easterling, 1993) have found that females tend to report more physical and psychological symptoms (e.g. anxiety and depression) than men. There is a cross over with increasing age, with younger females tending to report higher illness burdens then younger males, but over the age of 75 the findings reverse.

attentional strategy accompanied by affect inhibition or minimisation (Gray, 1985; Kobak & Sceery; 1988; Feeney & Noller, 1990; Feeney, Noller & Hanrahan, 1994; Shaver & Brennan, 1992; Cassidy, 1994; Maglai, 1999). Furthermore, as negative emotionality and being female is moderately correlated with increased health complaints (Watson & Pennebaker, 1989; Leventhal & Crouch, 1997), anxious-ambivalent female individuals may be more likely to monitor their bodies for bodily cues and interpret their symptoms as worrying. Taken as a whole, this research suggests that avoidant male participants would be less likely to acknowledge their distress, and be more likely to minimise their symptomatology and cut off displays of anger or distress as a result of a self-shaming response in relation to emotional expression (Maglai, 1999; Collins & Read, 1994; Bartholomew, 1990; Sroufe, 1983). Of relevance are the findings of a recent review of research into repressive coping (Myers 2000). Repressive coping is defined as a tendency to report low levels of distress and exhibit high levels of physiological arousal in a stressful situation (Weinberger, 1990). Myers highlights that in comparison with non-repressors (anxious and secure individuals), repressors have been found to recall higher levels of parental antipathy, indifference and a lack of closeness and have less access to current and past negative memories (Myers, Brewin & Power, 1992; Cutler, Larsen & Bunce, 1996; Myers, Brewin & Power 1998).

In considering these findings, recent attachment research suggests that differences in attachment styles become more pronounced when under conditions of threat. Simpson, Rholes & Nelligan (1992) found that women high in avoidant attachment retreated from their partners in an experimental anxiety-provoking situation, whereas equivalent males tended to reduce their care-giving to their partners. This

suggests that emotional repression may vary according to the prevailing environmental conditions and the quality of their attachment style.

Other bodies of research that may explain Feeney & Ryan's results are the research on monitoring and blunting coping styles (Miller 1981, 1989; Miller, Brody & Summerton, 1988; Millar & Millar, 1993; 1995), and the research on health-related locus of control (Rotter, 1966; Wallston, Wallston & De Vellis, 1978).

The monitoring and blunting research is important in its potential to explain differences of symptom-reporting and health-seeking behaviours in anxious-ambivalent and avoidant individuals. For example, according to the monitoring and blunting hypothesis (Miller, 1981), individuals differ in the way that they monitor, or seek out information about potentially threatening circumstances, and the degree to which they blunt, or cognitively avoid such information because of its stressful content. These findings support the associations between symptom repression, late presentation and avoidant attachment as risk factors for health (Kotler, Buzwell, Romeo & Bowland, 1994). In contrast, monitors tend to be more sensitive to bodily cues, have greater medical fears, engage in less health-related information seeking behaviour, disease-detection behaviour (e.g. examining skin for skin cancer) and demand more medical investigations than do blunters (Steptoe & O'Sullivan, 1986; Gard, Harris, Edwards & McCormack, 1988; Miller , Brody & Summerton, 1988; Muris & Van Zuuren, 1992; van Zuuren & Dooper, 1999).

The research on heath-related locus of control (Rotter, 1966; Wallston, Wallston & De Vellis, 1978) also appears related to attachment style (Feeney, 1995). Rotter

distinguished two causal understandings; internal attributions in which an event is perceived to be caused by the person themselves, and external attributions when the cause is perceived to be outside the person's control. In applying his internal-external theory to health behaviour, 'internals' would tend to be open to seeking information to improve their physical and psychological health (e.g. self-examination, taking regular exercise, going to a see a Counselling Psychologist) whereas 'externals' would tend to defer to powerful others (e.g. health professionals) and be more likely to attend health-centres for reassurance-seeking. In addition, they would be more likely to report poor health-maintaining behaviours.

High monitors and low blunter's typically represent a vulnerable population in response to everyday stress (Miller, 1989). For example, Miller, Rodoletz, Schroeder, Mangan & Sedlacek's (1996) reformulation of the monitoring model describes how high monitors, because of their tendency to seek out threatening information and their difficulties in reassuring themselves, can drift into a spiral of intrusive pessimistic and negativistic thinking that could lead to engaging in undesirable health behaviours that reinforce their sense of helplessness and an external locus of control. This outcome that is similar to the adoption of emotion focused coping (Folkman & Lazarus, 1984). This could mean that anxiously attached individuals who are very stressed may be less likely to engage in health-promoting behaviour which can in turn increase their stress in relation to health outcomes (Coyne, Aldwin & Lazarus, 1981; Russell & Cutrona, 1991). In relation to this research there is evidence to suggest that ignoring information (blunting) can be a useful coping strategy when problems are ambiguous and where the perceived threat to the individual is unclear. For example, it may be useful to adopt a blunting

strategy (e.g. disavowal) in the short-term rather that adopting a monitoring style (e.g. rumination) as this would tend to increase their sense of control over their situation and decrease their distress levels, a stance that would encourage the adoption of problem-focused strategies, a coping style that is associated with more adaptive coping (Holahan & Moos, 1987, Folkman & Lazarus, 1984).

In relation to Feeney & Ryan's (1994) findings, Feeney (1995) set out to explore associations between two dimensions of attachment (Anxiety over Relationships and Comfort with Closeness), monitoring and blunting coping styles, locus of control, and health behaviours. Feeney predicted that Anxiety over Relationships would be positively associated with Miller's monitoring coping style, an external 'powerful others' locus of control (but negatively associated with chance locus of control), increased reports of poor subjective health (unrelated to objective health status) and greater use of substances such as alcohol and tobacco. In contrast, Comfort with Closeness would be positively associated with an internal locus of control (but negatively associated with chance locus of control) and negative associations with the use of substances such as alcohol and cigarettes. No predictions were made with regard to links between attachment, exercise, expressed need for life-style change, or for the adoption of these changes.

Feeney asked 287 first-year psychology undergraduates to complete self-report measures of the two key attachment dimensions (mentioned previously), coping style (measured by the Miller Behavioural Coping Style Scale; MBCS, Miller, 1979), Health Locus of Control (measured by The Multidimensional Health Locus of Control Scales: MHLOC, Wallston Wallston, & De Vellis, 1978), health

behaviours (measured by the Pennebaker Inventory of Limbic Languidness: Pennebaker, 1982), and health-care utilisation (measured by numbers of medications used, number of visits to health professionals in the previous 10 weeks, diagnosed health problems, and number of days missed because of health problems). As the primary focus of the study was upon the prediction of health outcomes, at Time 2, only the measures of health behaviour and change in lifestyle were administered.

As predicted, the results of the study found that Anxiety over Relationships was positively associated with Miller's monitoring coping style and an external locus of control. In addition, Anxiety over Relationships was associated with increased reports of poor subjective health (unrelated to objective health status). These findings are consistent with the findings of Feeney & Ryan's (1994) study as well as the monitoring and blunting and the health-related locus of control literature that was reviewed earlier in this chapter. Feeney found that anxious-ambivalent individuals tend to be more hypervigilant to symptomatic distress, have high levels of distressing symptoms, negative emotionality, low self-esteem, and consequently feel less able to cope and contain their distress without the powerful presence of their attachment figure (Rothbard & Shaver, 1994; Main, 1995). The positive associations with powerful others locus of control, and negative associations with chance locus of control support this.

With regard to attachment and health-related lifestyle variables, and contrary to the hypothesis, negative associations were found between attachment and the use of cigarettes. Feeney (1995) suggests that the weak but significant association that was found might have been reflective of negative attitudes towards smoking, and perhaps the tendency for individuals who score highly on Anxiety over

Relationships to worry about how they are perceived. In contrast, no associations were found with alcohol use and Feeney suggests that this may reflect the low levels of reported substance misuse in the student population studied. The fact that Anxiety over Relationships was also negatively associated with exercise, but was positively associated with desired changes to lifestyle (diet, weight and exercise), perhaps emphasises the inhibitory effect of anticipated rejection yet a need for approval from others that was highlighted earlier in this review (Feeney, Noller & Hanrahan, 1994; Bartholomew & Horowitz, 1991).

As was predicted, Miller's blunting coping style was positively associated with Comfort with Closeness, and inversely related to monitoring, and chance locus of control. In other words those individuals who were more comfortable with closeness were less likely to be oversensitive to bodily cues and to other situations of threat. They were also less likely to regard their health status as influenced by chance factors. In contrary to the hypothesis, there were no associations with internal locus of control and there was a near zero association with powerful others locus of control.

Therefore, it appears that Comfort with Closeness (security of attachment) is associated with the belief that health outcomes are controllable, are unrelated to chance factors, but not with the belief that the individual is largely responsible for these outcomes. This may suggest that these individuals may feel that health outcomes are the joint responsibility of themselves and health professionals. There were no associations between Comfort with Closeness and smoking which again may reflect negative attitudes towards tobacco use. However, there were clearer

associations between attachment security and lifestyle variables. Specifically, the fact that Comfort with Closeness was negatively related to the number and amount of desired changes with regard to, diet and weight may be reflective of the higher levels of self-esteem and self-worth present in these individuals. In addition, those individuals high in Comfort with Closeness at Time 1 who expressed a wish to improve their diet reported greater levels of Comfort with Closeness at Time 2. Again this suggests that security of attachment is associated with higher levels of self-esteem, self-efficacy and the ability of securely attached individuals to remedy perceived deficits. The absence of a similar finding with regard to exercise suggests the influence of another confounding process that requires further research to delineate.

Another body of research that may provide many answers to such findings is the literature on health protection and health-beliefs, a brief review of which now follows.

1.5 Attachment, health beliefs and health behaviours.

As we have seen, this thesis asserts that the need or tendency for individuals to look after their health is generally reflective of the quality of care that was afforded to them as a child. The quality of such received care creates a template which individuals use to care for their physical and psychological well-being of themselves and others throughout their life-span. Bennett & Hodgson (1982) stress that psychological theories and models have been particularly helpful in better understanding such links between health beliefs and health behaviours. An

examination of recent reviews of health-protective and health-promoting theories (Weinstein, 1993; Abraham & Sheeran, 1997; van der Pligt, 1998) tend to emphasise the importance of three particular models. The Health Belief Model (HBM: Becker, 1974; Janz & Becker, 1984), Protection Motivation Theory (Rogers, 1983; Maddux & Rogers, 1983), and the Theory of Reasoned Action (TRA: Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980).

The health belief model (HBM) focuses upon two representations of health and behaviour; threat perception and behavioural evaluation. Threat perception includes perceived susceptibility to illness and anticipated severity of the consequences of the illness. Behavioural evaluation depends upon the beliefs concerning the benefits or efficacy of the recommended health behaviour and those concerning the costs of, or barriers to, enacting the behaviour. In addition the model proposes that cues to action (e.g. individual perceptions of symptoms, social influence and health campaigns) may trigger health behaviours when appropriate beliefs are held. Overall, research appears to suggest that the cost-benefit analysis (e.g. reasons for and against the adoption of a health belief and behaviour) proposed by the health belief model is inherently plausible. However, the model does not propose any cognitive mechanism by which beliefs about the threat of illness and preventative behaviour are translated into action. Such an explanation is central to Fishbein and Ajzen's (1975) theory of reasoned action (TRA) and attachment theory, attachment behavioural control systems, internal working models, emotional regulation and the set goal of felt security (Bowlby, 1984; 1988).

The TRA suggests that intention formation precedes and predicts behaviour and that intentions are themselves determined by beliefs about the risks of enacting or not enacting certain behaviours. The TRA acknowledges that other people's views affect our intentions and behaviour. Firstly, this includes what others may think of enacting or not enacting a particular health behaviour. Secondly, an individual's desire to conform to their wishes about actioning a specific behaviour depends upon the person's level of motivation to comply, which produces an 'action-specific cognition' about the overall utility of that health behaviour based upon experience. In attachment terms such concepts are analogous to the development of an internal working model in relation to self (e.g. self-worth, competence, loveability) and others (e.g. the essential goodness, trustworthiness, and dependability of others) (Bowlby, 1984; 1988; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994; Mikulincer, 1995). It is noted that Feeney & Ryan's (1994) model proposes that internal working models provide a means of handling affect in relation to the set goal of health security (analogous to felt security), and which contributes to an individual's system of health beliefs and health behaviours.

The TRA has three theoretical advantages of the HBM. Firstly, the proposal that intentions mediate the effects of beliefs on behaviour provides a model of how and why they may eventually culminate in a decision and intention to act. Secondly, there is an emphasis away from more generalised beliefs towards specific beliefs about specific health behaviours. Thirdly, the theory acknowledges the impact of social influence upon beliefs and behaviours. As has already been outlined, attachment theory with its links between early experiences, cognitive modelling,

affect regulation, interpersonal relating appears to offer much to the understanding of these contexts.

The protection motivation model predicts that adoption of a particular health behaviour is the result of combining the probability that a particular outcome will occur, the likely severity of a health outcome, the likely effectiveness of the precaution against the internal and external costs (i.e., time, money, inconvenience, effort), and the perceived loss of external rewards of that behaviour. Recent reviews of research (Abraham & Sheeran, 1997; van der Pligt & de Vries, 1995) have shown that the addition of measures of anticipated regret to those specified by the theory of planned behaviour increases the variance in condom use expectations (a measure of intention). Whilst regret appears to be a potentially useful emotion in maintaining and changing health behaviour, the consistent use of other associated emotions such as guilt and shame to influence behaviours are associated with insecure attachment (Maglai, 1999). Whilst guilt and shame like regret can be useful in motivating and changing behaviour, their use as a means of punishment and coercion implies disrespect for the child or adult's individuality and autonomy in relation to others and themselves.

From an attachment perspective, Heard & Lake (1997) suggest that shame and guilt are powerful emotions that are often associated with experiences whereby the insecure child believes that they have failed to live up to the standards that have been set for them. Shame and guilt can be used as a means of behavioural control the consequences of which can lead to the child feeling 'wicked' and 'bad' and adopt a similar self-shaming and punitive attitude toward themselves. Such

attributions are likely to effect both health-promoting and health protecting behaviours whereby insecurely attached individuals may feel that they and their health are not worth conserving (Birtchnell, 1988).

Protection motivation theory differs from the other health-protection theories in its explicit reference to self-efficacy (Bandura, 1977, 1989, 1991, 1992) higher levels of which are associated with secure attachment (Mikulincer, 1990). Self-efficacy refers to an individual's subjective estimation that they are capable of engaging in a particular action (or set of actions) in a particular situation. Efficacy beliefs affect every phase of personal change, such as whether people can consider changing their health habits; their levels of motivation and perseverance if they choose to change, and how well they maintain changed health behaviours. Therefore, an individual's ability to motivate themselves and regulate their own behaviour can play a crucial role in maintaining health and unhealthy health behaviours. For example, they may see little point in attempting to change if they feel that they do not have what it takes to succeed, and this would be more so with individuals who are insecurely attached. Alternatively, in the absence of quick results they may give up when they encounter obstacles, this may especially be the case in the presence of increased levels of negative affect that would interfere with intention-formation (e.g. commitment) and perceived behavioural control (Schwarzer, 1992). It is noted that Ajzen's revised TRA, now termed the Theory of Planned Behaviour (TRB: Ajzen, 1985; 1987), recognises that an individual's doubts about his or her ability to carry out an action (i.e., perceived behavioural control) can affect the motivation to act (intention). The basis of this theory has received a great deal of support from the research literature

(Ajzen, 1991; De Vries, Beckbier, Kok & Dijkstra, 1995; Schwarzer & Fuchs, 1996; Ewart, 1992).

In summary, there appear to be links between health belief concepts such as motivation, self-esteem, self-efficacy, meta-cognition, control, emotional regulation and attachment, in terms of the prediction of health behaviours. When undertaking any research it is important to establish whether there are any important methodological considerations that may be influential in complicating or confounding any resulting data and conclusions. In this next section I will consider these issues in relation to the proposed study.

1.6 Measurement and methodological issues

When undertaking research into health cognitions and health behaviours Weinman, Weinman, Wright and Johnston (1995) suggest that it is important to be aware of several important theoretical, empirical and methodological issues. Firstly, they suggest that there is a general theoretical problem in measuring cognitions as cognitions are to some extent hidden processes of which the respondent may be aware. Secondly, there is an assumption that cognitions underlie behaviours, when such relationships may be two-way, or may be influenced by other processes or variables. In health psychology the empirical issues concern the relative contribution of cognitive variables to behavioural outcomes.

In conclusion, Weinman et al suggest that in general such problems can be overcome with the adoption of appropriately designed studies and statistics. They

suggest that there are pros and cons for undertaking health-related research based upon one particular health belief model. The advantage of model-driven research is that it provides the investigator with a framework to construct designs and analyse results. However, because of their complexity, it may only be possible to investigate certain components of these models. Furthermore, these models provide limited guidelines for interviewing participants, assessing specific constructs, and establishing which confounding variables to control for. Weinman et al. suggest that given these issues, there are real problems in developing a standardised measure of one particular model of health beliefs.

An alternative is to develop multi-scaled measures that tap more general constructs that research has defined as being important in predicting health behaviours. One such measure, 'The Health Orientation Scale' (HOS) has been developed by Snell, Johnson, Lloyd and Hoover (1990). The HOS is a reliable and valid self-report measure that will be described in detail in the Method section (p 47). The HOS measures constructs such as: private health consciousness, health image concern, health anxiety, health esteem confidence, motivation to avoid unhealthiness, motivation for healthiness, internal and external health control, future health expectations and current health status that are associated with health-beliefs concepts such as motivation, locus of control, perceived attitudes of others, and self-efficacy (Abraham & Sheeran, 1997). This approach and this specific measure will be used as a basis for this study.

Considerable research has been conducted into representations of health behaviour and health protective behaviour. The above review highlights several important

social-psychological variables have been found to be important in explaining health behaviours such as taking regular exercise, dietary control, smoking and substance misuse. However, to date research has found few links between attachment and such health behaviours. In this study, health-behaviours were to be measured using the Health Promoting Lifestyle Profile-II: HPLP-II, (Walker, Sechrist & Pender, 1995). This measure was chosen as an alternative and hopefully more fruitful methodology to that used by Feeney (1995) who asked participants to rate their health behaviours (e.g. smoking, drinking exercise) using seven point Likert scales. The HPLP-II measures frequencies of health-protective and health-promoting behaviours, including; physical activity, good interpersonal relations, the use of stress management techniques, eating a balanced diet, spiritual growth (self-actualisation), feeling responsible for one's health, and a total health promoting score. Taken as a whole these scales are interpreted as an expression of an individual's actualising tendency directed toward sustaining or increasing the person's physical and psychological well-being and personal fulfilment (Walker, Sechrist & Pender, 1995).

There are methodological issues that need to be considered before undertaking attachment-related research. Firstly decisions have to be made about whether to adopt Hazan & Shaver's (1987) three-group model or Bartholomew's (1990) four-group model of attachment. Secondly, choices have to be made about whether to adopt a self-report or an interview method such as the Adult Attachment Interview (George, Kaplan, & Main, 1987). The advantage of self-report methods are far quicker and easier to administer and afford the possibility of utilising a large numbers of subjects in studies, but they are more susceptible to problems of under

and over reporting. If a self-report is the chosen method then further choices need to be made about the adoption of a categorical or dimensional measure of attachment. Necessarily, a categorical measurement model assumes that individuals who define themselves as anxiously attached would not also rate themselves as possessing degrees of avoidant or secure attachment. This suggests the possibility of measurement error, and issue that has been highlighted in the research literature (see Fraley & Waller, 1998; Baldwin & Fehr, 1995).

Taking each of these issues in turn, I will consider first which attachment model and measure to choose. Previous research had adopted Hazan & Shaver's three group model, and as the purpose of this research was intended to replicate and extend the basis of existing research then this was supportive of the adoption of Hazan & Shaver's model and their later version of AAQ (Shaver & Hazan, 1993). This measure combines both categorical and dimensional measures of attachment and affords participants the opportunity to identify with the prototypical descriptions by degree using a 7 point Likert scale. In relation to Fraley & Waller's (1998) concerns about measurement error (e.g. stability), a recent major review concluded that Hazan & Shaver's measure had acceptable psychometric properties (Stein, Jacobs, Ferguson, Allen & Fonagy, 1998). The reviewers found that the attachment categories were consistent with the type and quality of subject's relationships and were also consistent with retrospective accounts of participant's experience of care in childhood (Hazan & Shaver, 1987). As a result of the above rationale, this study will use Shaver & Hazan's (1993) measure of attachment.

Further methodological issues exist because of known tendencies towards over/under reporting by anxious and avoidant persons that have been highlighted by Feeney & Ryan (1995) and Watson & Pennebaker (1989) (see Section 1.4). Watson & Pennebaker found that negative affectivity (NA) is related to self-reported stress and health complaints, while positive affectivity (PA) was found to be associated with social activity and physical exercise (Watson et al, 1988). Watson & Pennebaker suggested that NA is especially important in tapping many of the confounding variables that are associated with symptom and attitude reporting. As a result, a measure of positive and negative affect (The Positive and Negative Affect Schedule: PANAS, Watson, Clark & Tellegen, 1988) will be used. It is noted that the PANAS is a 20-item 5 point Likert type scale and is a more sophisticated version of the 26-item true-false Multidimensional Personality Questionnaire: MDQ, (Tellegen, 1982), that was used in Feeney & Ryan's (1995) study.

1.7 The Study

The present study was designed to integrate and extend previously reviewed attachment research by clarifying the relations among attachment style, health beliefs and health behaviours in a non-random (opportunistic) mixed gender undergraduate sample. It is hoped that the results of the study will aid counsellors, counselling psychologists and researchers in their theoretical understanding of early developmental experiences and their relation to health-beliefs and health-care behaviours, that may have implications for individual clinical practice and wider service development issues in physical and mental health services.

In line with the contents and findings of this of this literature review especially the work of Feeney & Ryan (1994) and Feeney (1995), the following hypotheses are proposed. It is expected that certain constructs measured by the HOS (e.g. motivation, self-efficacy, locus of control) that have been demonstrated to be influential in affecting health perceptions and the uptake of health behaviours will be found to vary significantly between the three attachment groups. It is noted that because of the exploratory nature of this study the hypotheses are non-directional.

1.8 Hypotheses

Hypothesis 1:

There will be significant differences between the attachment groups with regard to the dependent variables Private Health Concern, Motivation for Health, Motivation to Avoid Unhealthiness, Internal Health Control and External Health Control.

Hypothesis 2:

There will be significant differences between attachment groups with regard to the dependent variables Health Anxiety, Health Image Concern, Health Status, Health Expectancies and Health Esteem Confidence.

Hypothesis 3:

There will be significant differences between attachment groups with regard to the dependent variables; Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Interpersonal Relations, Stress Management, and the Total Health Health-Promoting Lifestyle Profile Score.

Hypothesis 4:

There will be no significant differences between the attachment groups with regard to the Health Orientation Scale and Health Promoting Lifestyle Profile-2 dependent variables after controlling for negative affect

Hypothesis 5:

There will be significant two-way interactions between gender and attachment grouping with regard to the Health Orientation Scale and Health Promoting Lifestyle Profile-2 dependent variables.

CHAPTER 2

Method

2.0 Method

2.1 Design

A non-experimental group (cross-sectional) design and a correlational design was used to better understand relationships between the attachment and health-related variables. The design was used because of limitations of time and resources available to the researcher and because of the exploratory nature of the study.

2.2 Participants

Participants included both male and female students who were recruited on a non-random opportunistic basis from first, second and final year undergraduate courses at Durham University. Three hundred and eighty two participants were originally approached to take part in this study, of which 360 returned completed participant questionnaires.

The criteria for selection to the study were;

1. all participants needed to be able to complete the questionnaires with the minimum of assistance;
2. all participants had to sign two ethical consent forms.

In addition, because bereavement and loss can lead to disturbances in attachment (Bowlby, 1980), and because the possible influence of disability upon health beliefs and health behaviours (Johnson, 1997) the final exclusion criterion was developed.

3. Participants who had suffered a bereavement within the last year with the loss of a significant relationship (e.g. mother, father, spouse, partner) were to be excluded, as were participants who had a physical disability that they felt significantly compromised their ability to keep physically fit.

Of the 360 participants who completed and returned questionnaires, 40 participants (9.0 %) were excluded because they had suffered a bereavement (e.g. parent, sibling, spouse, partner, best friend) in the last year. Seven additional participants reported that they had a physical disability that compromised their ability to keep fit leaving a final total sample of 313.

Of these 313, 149 (47.6%) were male and 164 (52.4%) were female. One hundred and thirteen participants (35.9%) of this final sample attended psychology courses, 96 (30.7%) attended computer science courses, and 64 (20.4%) attended natural science courses. The remaining 40 (12.7%) participants attended a mixture of mathematics, IT, and social science courses.

The mean age of the final total sample was 18.9 years (SD = 2.04, range = 17-36), of who 85.0% were within the age range 18-19, and 93.0% were within the range of 18-20 years.

Participants socio-economic status (SES) was defined according to their father's occupation (or if deceased mother's occupation) using the Office of Population and Census Studies criteria (OPCS, 1991). The sample was divided as follows: Class 1 (n = 116, 37.1%); Class 2 (n = 131, 41.9%); Class 3 (n = 56, 17.9%); Class 4 (n = 8,

2.6%); Class 5 (n = 2, 0.6%). Fifteen participants (4.8%) indicated that they were married, 9 participants (2.7%) were cohabiting, 1 participant (0.3%) was divorced, none had been widowed, and 288 participants (92.0%) indicated that they were single (unmarried).

2.3 Measures

Independent variables

Attachment style

Adult Attachment Questionnaire (Shaver & Hazan, 1993)

The Adult Attachment Questionnaire (AAQ) is comprised of two parts and uses three prototypical descriptions of three major adult attachment styles (Secure, Avoidant, Anxious-ambivalent). In the first part, participants are required to think about all of the most important romantic relationships with which they have been involved, in terms of levels of happiness, fluctuation of mood, trust or mistrust, and closeness that they felt. Then, in relation to each prototypical description, participants are asked to rate the applicability of each description in relation to themselves using a seven point Likert-type scale (1) Disagree strongly to (7) Agree Strongly. In the second part of the questionnaire participants are asked to indicate which of the three attachment prototypes best describes how participants feel in romantic relationships. This measure has been widely used to assess attachment style in the general attachment literature (Feeney & Noller, 1996) and the health-related attachment literature (e.g. Feeney & Ryan, 1994; Kotler et al., 1994).

A review of studies using this measure has indicated that responses to the categorical attachment style measure are stable over 8-12 months for 70-75% of introductory psychology students. Test-retest reliabilities of the three single-item attachment styles ratings are typically in the .60 range over periods of 8-12 months (Shaver & Brennan, 1992).

Dependent Variables

Health beliefs.

The Health Orientation Scale (HOS: Snell, Johnson, Lloyd & Hoover, 1990).

The Health Orientation Scale (HOS) is a 50 item, 4 point Likert type self-report scale that is designed to measure psychological tendencies towards promoting physical health. The HOS produces 10 sub-scales that deal with the following concepts: Private Health Concern (i.e. the tendency to think about one's physical health); Health Image Concern (i.e., the awareness of other people's reactions to one's physical fitness); Health Anxiety (i.e., anxiety about physical health); Health Esteem Confidence (i.e., a generalised tendency to positively evaluate one's physical health); Motivation to Avoid Unhealthiness (i.e., motivation to ensure that one is not completely unhealthy); Motivation for Healthiness (i.e., motivation to keep oneself in good physical health); Internal Health Control (i.e., the tendency to believe that health and fitness is a function of one's own behaviours); External Health Control (i.e., the tendency to believe that one's health is influenced by such factors as luck and chance); Health Expectations (i.e., people's optimism about their future health status); and Health Status (i.e. the extent to which participants rate themselves as being well exercised and in good physical health).

These scales show good internal (av. α .814) and test-retest reliability (r = .854). A Spearman-Brown prophecy analysis (Brown, 1910, Spearman, 1910) on the basis of 10 items per sub-scale, suggested that the 10 sub-scales have more than adequate internal consistency (Snell, Johnson, Lloyd & Hoover, 1990).

Health-promoting behaviours

The Health-Promoting Life-style Profile (HPLP-II: Walker, Sechrist & Pender, 1995).

The HPLP was originally developed by in 1987 by the above authors to monitor health-promoting behaviours, conceptualised as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualisation and fulfilment of the individual. The HPLP has since been extensively used in health-related research and was revised by the authors in 1995 (the HPLP-2). This 52-item questionnaire utilises a 4 point Likert-type questionnaire (never = 1, sometimes, often, routinely = 4) that yields six dimensions of health-promoting behaviours: Health Responsibility, Physical Activity, Nutrition, Spiritual Growth (i.e. self-actualising attitudes and behaviours suggesting a tendency to purposeful commitment to oneself and with life), Interpersonal Relations (i.e. social support), Stress Management (i.e. meditation, relaxation) and a Total Health Promoting Score.

These scales show good internal (av. α .840) and test-retest reliability (r = .834). It is noted that permission to use this measure was obtained from the authors by the researcher, the other measures used were in the public domain.

Control variables

As studies have shown that age (Snell et al., 1990, Cameron et al. 1993; Leventhal et al. 1993), socio-economic status (e.g. Wilkinson, 1990) and negative emotionality (Watson & Pennebaker, 1989) are related to health beliefs and health behaviours, relationships between these variables were to be investigated. Socio-economic status was to be defined using the Office of Population and Census Studies criteria (OPCS, 1991). Negative emotionality was to be measured using the negative affect scale of the Positive and Negative Affect Schedule (PANAS: Watson, Clark & Tellegen, 1988) the basis of which requires further discussion.

Negative affect

Positive and Negative Affect Schedule (PANAS: Watson, Clark & Tellegen, 1988)

The PANAS is a 20-item, 5 point Likert-type questionnaire (1 = very slightly / not at all, to, 5 = extremely) that is designed to measure positive and negative affectivity. The schedule consists of 20 adjectives used to describe different feelings and emotions. Ten adjectives describe negative moods (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery and afraid) while the other ten describe positive moods (interested, excited, strong, enthusiastic, proud, alert, inspired. determined, attentive and active). The two scales are largely unrelated to each other, that is, an individual's standing on one dimension will not predict his or her status on the other (Watson & Pennebaker, 1989). They have distinct correlates, with negative affectivity (NA) relating to self-reported stress and health complaints, while positive affectivity (PA) is associated with social activity and physical exercise (Watson et al, 1988). Watson & Pennebaker suggest that NA is especially

important in tapping many of the confounding variables that are associated with symptom and attitude reporting. The PANAS has good internal consistency where Cronbach's alpha was above .84 for both scales. Validity has been demonstrated by correlation of the PANAS with other measures of distress and psychopathology (Watson et al. 1988).

2.4 Procedures

After obtaining ethical approval from the University of Durham, Ethics Committee (See Appendix 7.3), permission and guidance was obtained from the heads of the Schools and class lecturers regarding the most appropriate venue for collecting data. Data was collected in large class settings. The study was explained to the potential participants as was the process of completing the questionnaire booklets and obtaining consent. The consent forms were separate from the questionnaire booklet (see Appendix 7.2), and as a result anonymity and confidentiality were assured. Participants were also asked not to consult with colleagues when completing their questionnaires. Once consent was obtained participants took between 15-20 minutes to complete the questionnaire booklet. The author remained in the room during all data collection sessions in order to answer any questions. When participants had completed the questionnaire booklets they were debriefed and thanked for their participation. As they left the venue participants were asked to detach a copy of the consent for their own records, they were then asked to place the other form and their questionnaire booklet in separate marked boxes.

2.5 Analysis

The data was analysed using the SPSS (7.0) statistical package (Norusis, 1995). Initial demographic, descriptive analyses (e.g. age, gender, social economic status) were performed.

Parametric tests (one-way and two-way ANOVA) were utilised for the group analysis because the criteria of robustness of ANOVA provided by Glass & Hopkins (1996: 403-405, 514) were not violated. Firstly, the variables were found to be approximately normally distributed (see Appendix A, table 7.1). Secondly, after using Levene's test of homogeneity of variance (Levene, 1960), it was found that the variances were found to be equal (homogenous) across the attachment groups (including the gender x attachment group cells), with regard to all but one of the dependent variables tested, a result that would have been expected by chance (see Appendix A, tables 7.2 and 7.3). Thirdly, the data were assumed to be independent of each other. This was because the data were collected from three different pools of participants (first, second and third year undergraduates) who were attending different modular courses within several schools within the university, and because participants were encouraged not to discuss their responses with their peers.

As several of the variables under study were found not to be normally distributed, non-parametric statistics were used for the correlational analysis.

CHAPTER 3

Results

3.0 Results

The aim of this study was to investigate theoretical relationships between adult attachment styles, health beliefs and health behaviours in a mixed gender undergraduate sample. The hypotheses were organised according to certain dependent health-related variables that were expected to vary significantly between attachment groups. Given the general investigatory and exploratory nature of the study the data was analysed on the basis of group differences, and then by correlational analyses. This method of analysis reflects the tendency in the attachment literature to undertake different methods of analyses to better understand the relationships between the quality of attachment and health-related variables.

3.1 Characteristics of the data

With regard to testing the hypotheses, it was first necessary to establish whether the highest levels of the dimensional independent attachment variables, Secure, Anxious-ambivalent and Avoidant occurred in their respective attachment groupings. It was also necessary to establish whether the levels of these dimensional variables differed significantly across the three categorical attachment groupings and whether these variables correlated with each other in the expected way.

After checking for homogeneity of variance all of the AAQ scales were found to be non-homogeneous (see Appendix, A table 7.2). As a result a non-parametric ANOVA (Kruskal Wallis) was performed upon these attachment scales, the results of which confirmed that the levels of the three independent variables differed

significantly between each group in the way expected; Secure, $H = 94.85$, $df = 2$, $p.= .0001$, $N = 310$; Anxious-ambivalent, $H = 113.65$, $df = 2$, $p.= .0001$, $N = 310$; Avoidant, $H = 132.00$, $df = 2$, $p.= .0001$, $N = 310$. The full results can be seen in table 3.1 below.

Table 3.1. The results of non-parametric and parametric ANOVA upon the dimensional scales of the AAQ according to categorical attachment style. Means are in bold standard deviations are in brackets.

	Dimensional scale			
Attachment group	Secure	Ambivalent	Avoidant	
Secure	**5.44** (1.31)	**3.81** (1.61)	**3.18** (1.57)	H (2,310)= 94.85***
Ambivalent	**2.56** (1.35)	**4.78** (1.20)	**3.08** (1.30)	H (2,310)= 113.65***
Avoidant	**2.10** (1.24)	**2.69** (1.53)	**5.17** (1.30)	H (2,310)= 132.00***

***p.<.001

3.2 Statistical analysis: Correlational analysis

As some of the dependent variables were not normally distributed (see Appendix A, table 7.1), for ease of comparison, (two-tailed) Spearman's (1904) rank-order correlations were also performed upon all of the dependent, independent and the demographic variables. This was partly to establish whether the measures were performing in the directions expected but also to check for known associations between age, socio-economic status and negative emotionality upon health beliefs, and health behaviours (see Appendix A, Tables 7.4-7.9). This was the first step in examining the influence of these control variables upon the group data. All measures performed in the expected directions, the strength of correlations between measures being up to 0.38.

Age

Age was found to be significantly associated with two HOS sub-scales, Motivation to Avoid Unhealthiness, r_s = .14, *p.*= .015, and Motivation for Health r_s = .12, *p.*= .041, and one HPLP-2 sub-scale, Health Responsibility, r_s = .11, *p.*=.048.

Negative Affect

Negative affect was found to be significantly associated with six of the ten HOS sub-scales; Health Anxiety, r_s = .43, *p.*= .0001; Health Expectancy, r_s = -.26, p.= .0001; Health Esteem Confidence, r_s = -.18, *p.*= .002; Health Image Concern, r_s = .33, *p.*= .0001; Health Status, r_s = -.27, *p.*= .0001 and Private Health Concern, r_s = .12, *p.*= .037; and four of the seven HPLP-2 sub-scales; Physical Activity, r_s = -.12, *p.*= .027; Spiritual Growth, r_s = -.18, *p.*=.002; Stress management r_s = -.20, *p.*=.001 and the HPLP Total Score, r_s = -.16, *p.*= .005.

Socio-economic status

Socio-economic status was not associated with any of the dependent variables.

3.3 Statistical analysis - Group differences

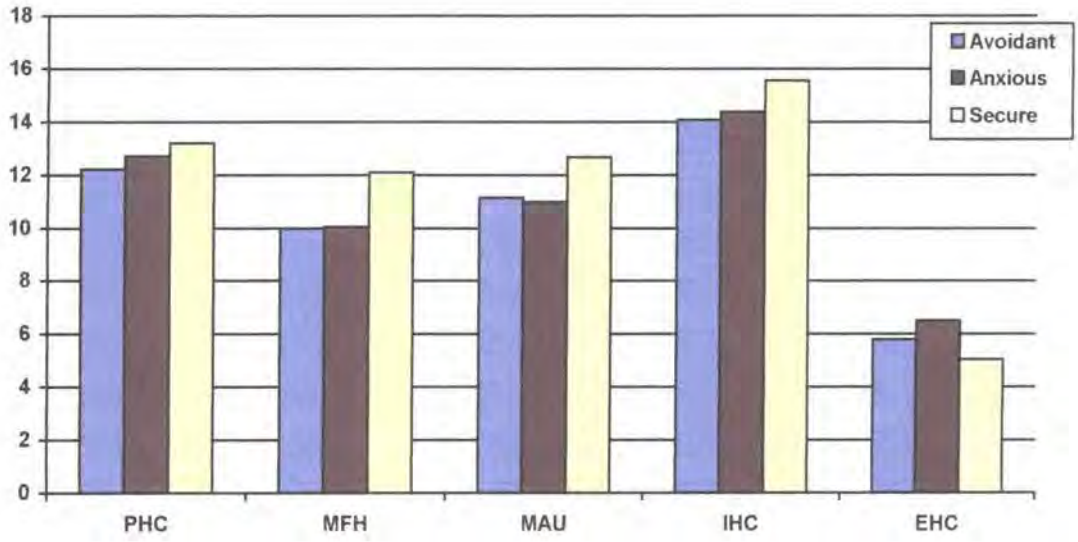
Hypothesis 1.

"There will be significant differences between the attachment groups with regard to the dependent variables Private Health Concern, Motivation for Health, Motivation to Avoid Unhealthiness, Internal Health Control and External Health Control".

This hypothesis was tested using a (two-tailed) one-way ANOVA using the Dunn (Bonferroni) multiple test of inequality (Dunn, 1961). Given the investigatory nature of the study, the Bonferroni a priori test was used because Glass & Hopkins (1996: 469) suggest it is one of the least conservative of the multiple comparison tests and also provides a guard against the possibility of committing a Type 1 error. The results of the ANOVA revealed that the hypothesis was supported with regard to four dependent variables; Motivation for Health, $F(2,309) = 5.88$, $p.= .003$; Motivation to Avoid Unhealthiness, $F(2,309) = 5.04$, $p.= .007$; Internal Health Control, $F(2,309) = 5.16$, $p.= .006$ and External Health Control, $F(2,309) = 5.22$, $p.= .028$. The remaining dependent variable, Private Health Concern was in the expected direction but was not found to vary significantly at the 5% level.

Between groupings, the Secure group reported significantly higher levels of Motivation For Health, Motivation to Avoid Unhealthiness and Internal Health Control than the Avoidant and the Anxious groups at the 5% level, whilst the Anxious group reported significantly higher levels of External Health Control than the Secure group. No other significant differences were found at the 5% level. For full results see table 3.2 overleaf.

Table 3.2. Indicating the results of a one-way ANOVA upon the Health Orientation Scale (HOS) sub-scales scores; Private Health Concern, Motivation to be Healthy, Motivation to Avoid Unhealthiness, Internal Health Control, and External Health Control across attachment groupings with a Bonferroni a priori test: Significance level .050. Mean figures are in bold, standard deviations are in brackets



	PHC	MFH	MAU	IHC	EHC
1. Avoidant	**12.23** (4.48)	**10.00** (5.52)	**11.15** (4.63)	**14.07** (3.89)	**5.78** (4.30)
2. Anxious	**12.72** (4.51)	**10.05** (5.45)	**11.01** (4.54)	**14.38** (3.74)	**6.50** (3.91)
3. Secure	**13.21** (4.32)	**12.11** (4.89)	**12.68** (4.12)	**15.57** (3.41)	**5.04** (4.02)
DF (2, 309)					
F	1.23	5.88	5.04	5.16	3.63
Sig-F.	.293	.003**	.007**	.006**	.028*

** $p < .05$, **$p < .01$*

Group	1	2	1	2	1	2	1	2	1	2
2			2		2		2		2	
3			3	* *	3	* *	3	* *	3	*

Key:

PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control.

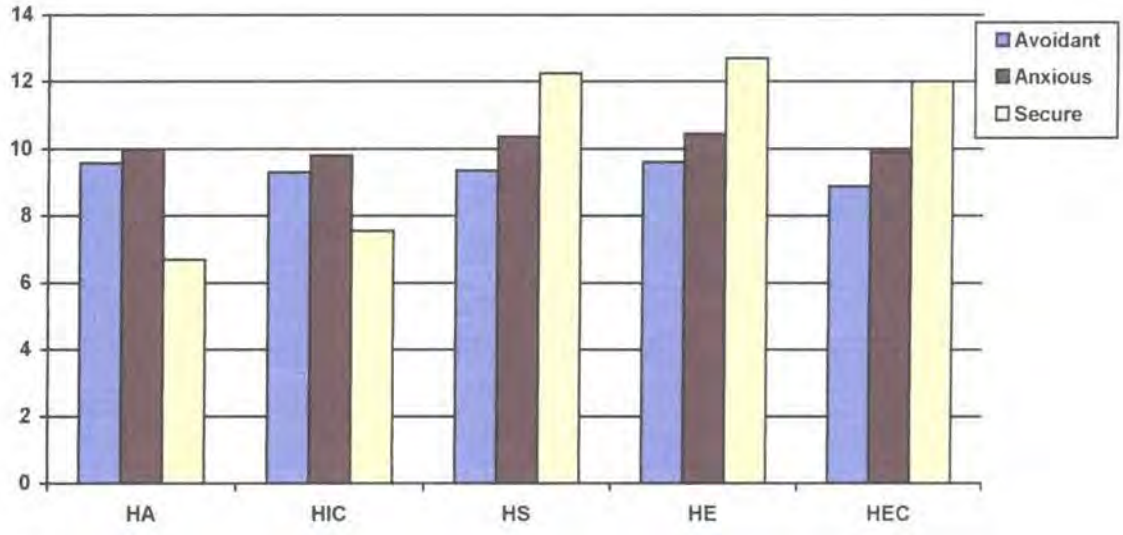
Hypothesis 2.

"There will be significant differences between attachment groups with regard to the dependent variables Health Anxiety, Health Image Concern, Health Status, Health Expectancies and Health Esteem Confidence".

This hypothesis was tested using a (two-tailed) one-way ANOVA with a Bonferroni a priori test. The hypothesis was supported with regard to all five dependent variables; Health Anxiety, $F(2,309) = 15.19$, $p.= .0001$; Health Image Concern, $F(2,309) = 4.71$, $p.= .010$; Health Status, $F(2,309) = 13.37$, $p.= .0001$; Health Expectations, $F(2,309) = 19.93$, $p.= .0001$; and Health Esteem Confidence, $F(2,309) = 20.50$, $p.= .0001$.

Between groups, the Anxious-ambivalent group and the Avoidant group were found to have significantly higher levels of Health Anxiety than the Secure group at the 0.1% level, and the Anxious group also reported significantly higher levels of Health Image Concern than the Secure group at the 5% level. Both the Anxious and Avoidant groups reported significantly lower levels of Health Status (1% level), Health Expectations and Health Esteem Confidence than the Secure group (both at the 0.1% level). For full results see table 3.3 overleaf.

Table 3.3 Indicating the results of a one-way ANOVA upon the Health Orientation Scale (HOS) sub-scales scores; Health Anxiety, Health Image Concern, Health Status, Health Expectations and Health Esteem Confidence across attachment groupings with a Bonferroni a priori test: Significance level .050. Mean figures are in bold, standard deviations are in brackets



	HA	HIC	HS	HE	HEC
1. Avoidant	**9.57** (5.08)	**9.30** (5.61)	**9.35** (4.51)	**9.60** (3.37)	**8.89** (3.97)
2. Anxious	**9.98** (5.16)	**9.80** (5.96)	**10.36** (4.05)	**10.45** (2.09)	**9.89** (3.72)
3. Secure	**6.70** (4.49)	**7.54** (5.87)	**12.25** (3.97)	**12.70** (3.69)	**12.01** (3.32)
DF (2, 309)					
F	15.19	4.71	13.37	19.93	20.50
Sig-F.	.000***	.010**	.000***	.000***	.000***

*p <.05; **p <.01; ***p <.001

Group	1	2	1	2	1	2	1	2	1	2
2										
3	***	***		*	**	**	***	***	***	***

Key:

HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

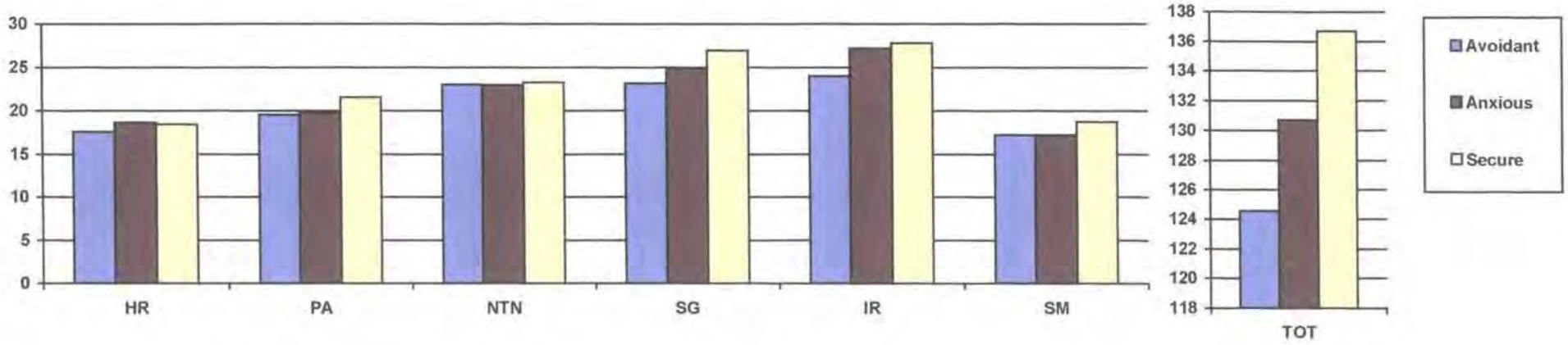
Hypothesis 3.

"There will be significant differences between attachment groups with regard to the dependent variables; Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Interpersonal Relations, Stress Management, and the Total Health Promoting Lifestyle Profile score."

This hypothesis was tested using a (two-tailed) one-way ANOVA with a Bonferroni a priori test. The hypothesis was supported with regard to five out of seven dependent variables; Physical Activity, $F(2,309) = 6.00$, $p. = .003$; Spiritual Growth, $F(2,309) = 15.17$, $p. = .0001$; Interpersonal Relations, $F(2,309) = 18.51$, $p. = .0001$; Stress Management, $F(2,309) = 7.25$, $p. = .001$ and the Total Health Promoting score, $F(2,309) = 12.53$, $p. = .0001$. The remaining dependent variables, Health Responsibility and Nutrition were in the expected direction but were not found to be significant at the 5% level.

Between groups, the Secure group reported significantly higher levels of Physical Activity and Stress Management (both at the 1% level), as well as significantly higher levels of Interpersonal Relations; Spiritual Growth and Total health promoting behaviours in comparison to the Avoidant group (all at the 0.1% level). The Secure group also reported significantly higher levels of Physical Activity, Spiritual Growth, Total Health Promoting score (all at the 5% level) and significantly higher levels of Stress Management than the Anxious-ambivalent group (1% level). Finally, the Anxious group also reported significantly higher levels of Interpersonal Relations (0.1% Level) and Total Health Promotion score (5% level) than the Avoidant group. For full results see table 3.4 overleaf.

Table 3.4 Indicating the results of a one-way ANOVA upon the Health Promoting Lifestyle Profile (HPLP-2) sub-scales scores across attachment groupings with a Bonferroni a priori test: Significance level .050. Mean figures are in bold, standard deviations are in brackets



Group	HR	PA	NTN	SG	IR	SM	TOT
1. Avoidant	**17.56** (4.41)	**19.56** (4.58)	**22.23** (4.35)	**23.18** (5.07)	**24.04** (4.98)	**17.18** (3.89)	**124.56** (18.92)
2. Anxious	**18.63** (4.34)	**19.81** (4.92)	**22.94** (4.88)	**24.94** (4.88)	**27.16** (4.08)	**17.20** (3.09)	**130.70** (16.47)
3. Secure	**18.43** (4.41)	**21.56** (4.50)	**23.01** (4.56)	**26.95** (4.84)	**27.79** (4.56)	**18.71** (3.37)	**136.69** (16.77)
DF (2,309)							
F	1.58	6.00	.13	15.17	18.51	7.25	12.53
Sig-F	.207	.003**	.882	.000***	.000***	.001**	.000***

*p. <.05, **p. <.01, ***p <.001

Group	1	2	1	2	1	2	1	2	1	2	1	2	1	2
2									***				*	
3			**	*			***	*	***		**	**	***	*

KEY: HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Negative affect

As part of the group analysis, and after testing for homogeneity of variance (see Appendix, table 7.1), two-tailed non-parametric (Kruskal Wallis) and parametric ANOVA were performed, respectively, upon the variables Negative and Positive Affect. The result of this analysis indicated significant differences between the attachment groups: Negative Affect, $H = 58.98$, $df = 2$, $p. = .0001$, $n = 309$; Positive Affect, $F(2,309) = 9.41$, $p. = .0001$. For full results see table 3.5 below.

Table 3.5. The results of non-parametric and parametric ANOVA upon the positive and negative affect scales of PANAS according to attachment style. Means are in bold standard deviations are in brackets.

	Attachment style			
Scale	Secure	Ambivalent	Avoidant	
Negative affect	**19.58** (6.41)	**26.65** (7.75)	**25.91** (8.15)	$H(2,308) = 23.78$***
Positive affect	**36.47** (6.71)	**34.04** (6.75)	**32.34** (7.34)	$F(2,308) = 9.41$***

*** p <.001

When the data file was split by gender, and after checking for homogeneity of variance, a one way ANOVA was performed the results of which indicated that there were significant differences of negative and positive affect between attachment groups (see table 3.6 overleaf). After checking for homogeneity of variance (see table 7.3), a two-way ANOVA (attachment x Gender) was also performed upon the variable Negative Affect. The results of which suggested that there was no significant difference in terms of negative affect with gender between attachment groups $F(1,309) = .001$, $p. = 973$, but there was a significant interaction between negative affect with gender and attachment grouping $F(2,308) = 3.34$, $p. =$

.037, with insecure males and females reporting significantly higher levels of negative affect than secure males and females.

Table 3.6. The results of a one way ANOVA upon the positive and negative affect scales of PANAS according to attachment style and gender. Means are in bold standard deviations are in brackets.

Gender	Attachment Group	Negative Affect	Positive Affect	N
Males	Avoidant	**23.93** (7.15)	**31.41** (6.78)	29
	Anxious	**26.91**[a] (7.22)	**34.53**[a] (6.41)	57
	Secure	**20.75**[a] (6.47)	**36.14**[a] (6.75)	63
df (2, 147)				149
F		11.96	5.05	
Sig.		.0001	.008	
Females	Avoidant	**26.94**[b] (8.50)	**32.82**[b] (7.61)	56
	Anxious	**26.33**[a] (7.35)	**33.44** (7.19)	45
	Secure	**18.39**[a] (6.16)	**36.80**[b] (6.71)	61
df (2, 160)				162
F		24.08	5.17	
Sig.		.0001	.007	

[a] = significant (p. < .001) difference between secure and anxious participants
[b]= significant (p. < .001) difference between secure and avoidant participants

Hypothesis 4.

"There will be no significant differences between the attachment groups with regard to the Health Orientation Scale and Health Promoting Lifestyle Profile-2 dependent variables after controlling for negative affect".

This hypothesis was tested by regressing five out of ten HOS dependent variables (Health Anxiety, Health Expectancy, Health Esteem Confidence, Health Image Concern and Health Status) and four of the seven HPLP-2 variables (Physical Activity, Stress management, Spiritual Growth and the HPLP Total Score), against the control variable Negative Affect, where; a) significant group differences were

found between the attachment groups as part of the one-way ANOVA analysis, and b), where these dependent variables were also found to correlate with Negative Affect. The unstandardised residuals were saved, analysed and compared with the original group analyses using a (two-tailed) One-way ANOVA analysis with a Bonferroni a priori test, a procedure that is not available using ANCOVA procedures. These residuals were found to be homogeneous (see Appendix A Table 7.11).

The results of this analysis found that of these nine dependent variables, three variables; Health Anxiety, $F(2,309) = 3.00$, $p. = .051$; Health Image Concern, $F(2,309) = .431$, p. = .650; Stress Management, $F(2,308) = 2.23$, $p. = .110$ became non-significant, indicating that Negative Affect played a significant mediating influence upon these three dependent variables. Thus the hypothesis was supported with regard to three of the nine dependent variables tested (see Appendix A, Table 7.12 for full results).

Hypothesis 5.

"There will be significant two way interactions between gender and attachment grouping with regard to the Health Orientation Scale and Health Promoting Lifestyle Profile-2 dependent variables."

This hypothesis was tested using a (two-tailed) 2 x 3 ANOVA with the unique method. The hypothesis was supported with regard to three out of ten HOS variables tested; External Health Control, $F(2, 309) = 3.74$, $p. = .025$; Health Esteem Confidence, $F(2, 309) = 3.37$, $p. = .037$; Motivation for Healthiness, $F(2, 309) =$

4.04, $p.$ = .019; and five out of seven HPLP-2 variables; Interpersonal relations, $F(2, 307) = 3.60$, $p.$ = .029; Nutrition, $F(2, 307) = 6.08$, $p.$ = .003; Physical Activity, $F(2, 307) = 4.04$, $p.$ = .019; Spiritual Growth, $F(2, 307) = 4.29$, $p.$ = .015, and the HPLP Total Score, $F(2, 307) = 4.97$, $p.$ = .008. Therefore the hypothesis was supported in a total of eight out of seventeen variables tested. The results of these significant findings are outlined in Tables 3.7-3.14 that follow. The full results including the gender x attachment plots involving all of the HOS and HPLP-2 variables can be found in Appendix A (tables 7.13-7.16)

External Health Control

Table 3.7. Indicating the results of a two-way ANOVA analysis upon the Health Orientation Scale External Health Control (HOSEHC) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HOSEHC	Main Effects	(Combined)	121.569	3	40.523	2.481	.061
		GENDER	2.920	1	2.920	.179	.673
		AAQGRP1	118.576	2	59.288	3.631	.028
	2-Way Interactions	GENDER * AAQGRP1	122.205	2	61.102	3.742	.025
	Model		242.772	5	48.554	2.973	.012
	Residual		4997.071	306	16.330		
	Total		5239.843	311	16.848		

a. HOSEHC by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**6.75** (5.40)	.750	**5.28** (3.55)	.540
Anxious	**6.78** (3.48)	.535	**6.11** (3.29)	.602
Secure	**4.30** (3.58)	.509	**5.81** (4.33)	.513

The summary table shows that there was no significant effect of Gender, $F(1, 310) = .18$, $p.$ = .673, but there was a significant main effect of Attachment group

(AAQGRP1), $F(2, 309 = 3.63, p. = .028$, and between Gender and Attachment group, $F(2, 309) = 3.74, p. = .025$. Avoidant and Anxious males and females reported the highest levels of External Health Control, and Secure Males and Avoidant females reported lower levels. Of these groups Secure males reported the lowest levels of External Health Control.

Health Esteem Confidence

Table 3.8. Indicating the results of a two-way ANOVA analysis upon the Health Orientation Scale Health Esteem Confidence (HOSHEC) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HOSHEC	Main Effects	(Combined)	624.196	3	208.065	15.920	.000
		GENDER	26.446	1	26.446	2.023	.156
		AAQGRP1	619.835	2	309.917	23.713	.000
	2-Way Interactions	GENDER * AAQGRP1	87.199	2	43.600	3.336	.037
	Model		644.497	5	128.899	9.863	.000
	Residual		3999.244	306	13.069		
	Total		4643.740	311	14.932		

a. HOSHEC by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std. Err*	*Females*	*Std. Err*
Avoidant	**7.41** (4.04)	.671	**9.46** (3.74)	.483
Anxious	**10.07** (4.03)	.479	**9.54** (3.26)	.539
Secure	**12.03** (3.62)	.455	**12.00** (3.01)	.459

The summary table shows that there was no significant effect of Gender, $F(1, 310) = 2.02, p. = .156$, but there was a significant main effect of Attachment group (AAQGRP1), $F(2, 309) = 23.71, p. = .0001$, and between Gender and Attachment group, $F(2, 309) = 3.37, p. = .037$. Male and female Secure participants reported the

highest levels of Health Esteem Confidence between the attachment groups, whereas Secure male and female participants reported the lowest levels. Of these groups Avoidant males reported the lowest levels of Health Esteem Confidence.

Motivation for Healthiness

Table 3.9. Indicating the results of a two-way ANOVA analysis upon the Health Orientation Scale Motivation For Health (HOSMFH) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HOSMFH	Main Effects	(Combined)	411.921	3	137.307	5.061	.002
		GENDER	16.430	1	16.430	.606	.437
		AAQGRP1	406.267	2	203.133	7.487	.001
	2-Way Interactions	GENDER * AAQGRP1	219.080	2	109.540	4.037	.019
	Model		547.835	5	109.567	4.038	.001
	Residual		8302.511	306	27.132		
	Total		8850.346	311	28.458		

a. HOSMFH by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std. Err*	*Females*	*Std. Err*
Avoidant	**8.07** (4.42)	.967	**11.00** (5.80)	.696
Anxious	**10.73** (5.50)	.690	**8.95** (5.10)	.776
Secure	**12.09** (5.02)	.656	**12.12** (3.80)	.662

The summary table shows that there was no significant main effect of Gender, $F(1, 310) = .606$, $p. = .437$, but there was a significant main effect upon Attachment group (AAQGRP1), $F(2, 309) = 7.49$, $p. = .001$. There was a significant interaction between Gender and Attachment group, $F(2, 309) = 4.04$, $p. = .019$. Male and female Secure participants reported the highest levels of Motivation for Healthiness,

whereas male Avoidant and female Anxious participants reported the lowest levels. Of these Avoidant male participants reported the lowest levels.

Interpersonal relations

Table 3.10. Indicating the results of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile variable Interpersonal Relations (HPLPIR) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HPLPIR	Main Effects	(Combined)	1153.996	3	384.665	20.195	.000
		GENDER	387.755	1	387.755	20.358	.000
		AAQGRP1	959.506	2	479.753	25.188	.000
	2-Way Interactions	GENDER * AAQGRP1	137.043	2	68.521	3.597	.029
	Model		1287.982	5	257.596	13.524	.000
	Residual		5790.354	304	19.047		
	Total		7078.335	309	22.907		

a. HPLPIR by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**21.68** (5.45)	.810	**25.26** (4.29)	.583
Anxious	**27.00** (3.82)	.578	**27.41** (4.48)	.658
Secure	**27.32** (4.79)	.550	**29.31** (3.77)	.559

The summary table shows that there was a significant main effect upon Gender, $F(1, 308) = 20.19$, $p. = .0001$, and attachment group (AAQGRP1), $F(2, 307) = 25.19$, $p. = .0001$. There was also a significant interaction between Gender and Attachment group, $F(2, 307) = 3.60$, $p. = .029$. Male and female Secure participants reported the highest levels of Interpersonal relations, whereas male Avoidant participants reported the lowest levels.

Nutrition

Table 3.11. Indicating the results of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile variable Nutrition (HPLPNTN) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HPLPNTN	Main Effects	(Combined)	157.819	3	52.606	2.605	.052
		GENDER	143.437	1	143.437	7.103	.008
		AAQGRP1	32.907	2	16.454	.815	.444
	2-Way Interactions	GENDER * AAQGRP1	245.600	2	122.800	6.081	.003
	Model		333.530	5	66.706	3.303	.006
	Residual		6138.612	304	20.193		
	Total		6472.142	309	20.945		

a. HPLPNTN by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**20.48** (3.33)	.834	**24.32** (4.57)	.600
Anxious	**22.46** (4.93)	.595	**23.34** (4.63)	.677
Secure	**23.58** (3.96)	.566	**22.87** (4.73)	.575

The summary table shows that there was a significant main effect upon Gender, $F(1, 308) = 7.10, p. = .008$, but not Attachment group (AAQGRP1), $F(2, 307) = .815, p. = .444$. There was a significant interaction between Gender and Attachment group, $F(2, 307) = 6.08, p. = .003$. Male Secure and Avoidant female participants reported the highest levels of Nutrition, whereas male Avoidant participants reported the lowest levels.

Physical Activity

Table 3.12. Indicating the results of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile variable Physical Activity (HPLPPA) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HPLPPA	Main Effects	(Combined)	334.959	3	111.653	5.228	.002
		GENDER	7.191	1	7.191	.337	.562
		AAQGRP1	315.786	2	157.893	7.394	.001
	2-Way Interactions	GENDER * AAQGRP1	172.528	2	86.264	4.039	.019
	Model		456.488	5	91.298	4.275	.001
	Residual		6492.080	304	21.356		
	Total		6948.568	309	22.487		

a. HPLPPA by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**18.27** (4.52)	.834	**20.23** (4.50)	.600
Anxious	**20.65** (4.79)	.595	**18.58** (4.90)	.677
Secure	**22.05** (4.43)	.566	**21.07** (4.55)	.575

The summary table shows that there was no significant main effect upon Gender, $F(1, 308) = .337$, $p. = .562$, but there was upon Attachment group (AAQGRP1), $F(2, 307) = 7.39$, $p. = .001$. There was also a significant interaction between Gender and Attachment group, $F(2, 307) = 4.04$, $p. = .019$. Male and female Secure participants reported the highest levels of Physical Activity, whereas Anxious female and especially Avoidant male participants reported the lowest levels of Physical Activity.

Spiritual Growth

Table 3.13. Indicating the results of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile variable Spiritual Growth (HPLPSG) scores by gender and attachment group. Below are the means (bold) standard deviations (brackets) and standard errors between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HPLPSG	Main Effects	(Combined)	812.686	3	270.895	11.474	.000
		GENDER	9.121	1	9.121	.386	.535
		AAQGRP1	811.549	2	405.775	17.186	.000
	2-Way Interactions	GENDER * AAQGRP1	202.383	2	101.191	4.286	.015
	Model		938.824	5	187.765	7.953	.000
	Residual		7177.485	304	23.610		
	Total		8116.310	309	26.266		

a. HPLPSG by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**21.90** (4.98)	.902	**23.86** (5.03)	.649
Anxious	**25.81** (4.30)	.644	**23.65** (5.22)	.733
Secure	**26.41** (5.43)	.612	**27.51** (4.12)	.622

The summary table shows that there was no significant main effect upon Gender, $F(1, 308) = .386$, $p. = .535$, but there was upon Attachment group (AAQGRP1), $F(2, 307) = 17.19$, $p. = .0001$. There was also a significant interaction between Gender and Attachment group, $F(2, 307) = 4.29$, $p. = .015$. Male and female Secure participants reported the highest levels of Spiritual Growth, whereas Anxious female and especially Avoidant male participants reported the lowest levels.

HPLP Total Score

Table 3.14. Indicating the results of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile variable Spiritual Growth (HPLPSG) scores by gender and attachment group. Below are the means (bold) and standard deviations (brackets) between the groups.

ANOVA[a,b]

			Unique Method				
			Sum of Squares	df	Mean Square	F	Sig.
HPLPTOT	Main Effects	(Combined)	9997.622	3	3332.541	11.488	.000
		GENDER	1192.405	1	1192.405	4.110	.043
		AAQGRP1	9619.222	2	4809.611	16.579	.000
	2-Way Interactions	GENDER * AAQGRP1	2884.684	2	1442.342	4.972	.008
	Model		11149.3	5	2229.856	7.687	.000
	Residual		88190.0	304	290.099		
	Total		99339.3	309	321.486		

a. HPLPTOT by GENDER, AAQGRP1

b. All effects entered simultaneously

Attachment Group	*Males*	*Std.Err*	*Females*	*Std.Err*
Avoidant	**115.90** (20.19)	3.16	**129.06** (16.71)	2.27
Anxious	**132.00** (16.18)	2.25	**128.19** (16.11)	2.56
Secure	**135.70** (18.21)	2.14	**137.72** (15.25)	2.18

The summary table shows that there were significant main effects upon Gender, $F(1, 308) = 4.11$, $p. = .043$ and Attachment group (AAQGRP1), $F(2, 307) = 16.56$, $p. = .0001$. There was also a significant interaction between Gender and Attachment group, $F(2, 307) = 4.97$, $p. = .008$. Male and female Secure participants reported the highest levels of Total Health Promoting Behaviours, whereas Anxious and Avoidant females, and especially Avoidant male participants reported the lowest levels.

CHAPTER 4

Discussion of study results

4.0 Discussion

The present study aimed to investigate theoretical relationships between adult attachment styles, health beliefs and health behaviours in an undergraduate sample. The hypotheses were organised according to the dependent variables produced by the HOS and then HPLP-2. The influence of negative affect upon these variables was also studied as were any interactions between gender and attachment style upon the results. What follows is a descriptive analysis of the data followed by an overview and discussion of the findings of the study in relation to previous research. A critical analysis of the study findings and a discussion of the clinical and service implications of the findings will follow.

4.1 Characteristics of the data

This study utilised the responses of a sample of 313 undergraduates of mixed gender. It is noted that this sample size was felt to be adequate given that Feeney and Ryan (1994) and Feeney (1995) used a sample of 287 participants with good results.

Of the 313 participants who comprised the final sample, 125 (39.9%) endorsed the Secure description of the forced-choice measure and 103 (32.9%) and 85 (27.2%) of participants, respectively, endorsed the Anxious-ambivalent and Avoidant groups. These percentages were very similar to those reported by Feeney & Ryan (1994), who found that 42.9 % of their undergraduate sample reported themselves as

Secure, and 32.8% and 24.4% as Anxious and Avoidantly attached. By chance there were no significant differences between the attachment groups with regard to Age ($F(2,310) = .919$, p. = .400) and Socio-economic status ($F(2,310) = 2.47$, p. = .087).

Confounding variables

Age was found to be very weakly associated (up to 0.15) with two HOS variables, Motivation to Avoid Unhealthiness and Motivation for Health and one HPLP sub-scale, Health Responsibility. Participants appearing to become more concerned and more responsible for their health with increasing age. Despite the restricted age range of the study sample this finding corroborates the findings of age-related studies using the HOS (Snell, et al., 1990; Cameron et al., 1993; Leventhal et al. 1993), suggesting that as people age they feel more motivated to look after their health.

Lower socio-economic status has been shown to have a considerable effect of health and health-related variables (Wilkinson, 1990; Hein, Suadicani & Gyntelberg, 1992), however, no such associations were found between the HOS and HPLP-2 variables. This finding was expected given that only 3 participants (4.0% of the total sample) came from socio-economic classes 4 and 5.

4.2 Overview of results

4.2.1 The Health Orientation Scale

The correlational analysis indicated a preponderance of weak correlations (up to r = .33) between the Adult Attachment Scale (AAQ) dimensional scores and the HOS variables. anxious and avoidant attachment were positively associated with health anxiety but were negatively associated with health esteem confidence, internal health control and motivation for health. Avoidant attachment alone was found to be negatively associated with health status. Secure attachment was found to be negatively associated with external health control, health anxiety, but was also found to be positively associated with health esteem, health esteem confidence, health status, internal health control, motivation to avoid unhealthiness and motivation for health.

Participants in the securely attached group reported significantly higher levels of motivation for health, motivation to avoid unhealthiness, internal health control, health status, and health esteem confidence in comparison to participants in the avoidant and anxiously attached groups. Avoidant participants reported the lowest levels of health status, and health esteem confidence out of the three attachment groups. In contrast, securely attached participants reported higher levels of private health concern than did avoidant and anxiously attached participants but these levels were not significantly different. Participants in the avoidant and anxiously attached groups also reported significantly higher levels of health anxiety than did participants in the securely attached group. Of these two insecure groups the

anxiously attached group reported the highest levels of health anxiety and the secure group the lowest levels of health anxiety.

In comparison with securely attached participants, participants in the anxious-ambivalent group reported significantly higher levels of health anxiety, health image concern, external health control and significantly lower levels of health status. The remainder of the HOS sub-scales were in the expected direction but were not found to differ significantly.

4.2.2 The Health-Promoting Lifestyle Profile

Like the HOS, the correlational analysis indicated a preponderance of weak to moderate correlations (up to r = .48) between the Adult Attachment Scale (AAQ) dimensional scores and the HPLP-2 variables. Negative correlations were found between avoidant attachment and health responsibility, interpersonal relations, spiritual growth, stress management and the total health promoting behaviours. Negative correlations were also found between anxious attachment and nutrition, physical activity, stress management and the total health promoting behaviours. Positive correlations were found between secure attachment and health responsibility, interpersonal relations, physical activity, spiritual growth, stress management, and the total health promoting behaviours.

In comparison to participants in the avoidant group, participants in the secure group reported significantly higher levels of physical activity, spiritual growth, interpersonal relations, stress management and total health promoting behaviours.

In comparison to participants in the ambivalent group, participants in the secure group reported significantly higher levels of physical activity, spiritual growth, stress management, and total health promoting behaviours.

Participants in the anxious-ambivalent group reported significantly higher levels of interpersonal relations and total health promoting behaviours than did participants in the avoidant group. Participants in the anxious group also reported higher levels of health responsibility, spiritual growth and physical activity in comparison to participants in the avoidant group, however, these differences were not found to be significant.

4.2.3 Negative affect

Participants in the secure group reported significantly lower levels of negative affect and correspondingly, significantly higher levels of positive affect. In contrast participants in the anxious-ambivalent group reported the highest levels of negative affect and the lowest levels of positive affect. Much as with the HOS and the HPLP variable scores, there were weak associations (up to $r = .32$) between the attachment scales cores and positive and negative affect. There were positive associations between negative affect and the two insecure attachment variables and negative associations with the secure attachment variable. The reverse was the case for positive affect.

After controlling for the variable negative affect, it was found that of the nine dependent variables where significant group differences had been originally found

and where these variables also were found to correlate with negative affect, only three variables, health anxiety, health image concern, and stress management, became non-significant, indicating that negative affect played a significant mediating influence upon these three dependent variables alone.

4.2.4 Interactions between gender and attachment.

As studies suggest likely interactions between gender and attachment influence health beliefs and health behaviours (Feeney, 1995; Watson & Pennebaker, 1989), interactive effects between these variables were examined. In terms of gender effects, the results indicated that females reported significantly higher levels of interpersonal relations, nutrition and the total health promoting behaviours than did males. When the influence of any interactive effects between gender and attachment were studied, the results suggested that there were significant two way interactions in the case of the variables external health control, health esteem confidence, motivation for healthiness, interpersonal relations, nutrition, physical activity, spiritual growth and the total health promoting.

External Health Control

Avoidant and anxious males reported the highest levels of external health control, and secure males and avoidant females reported lower levels. Of these groups secure males reported much lower levels.

Health Esteem Confidence

Secure males and females reported the highest levels of health esteem confidence between the attachment groups whereas secure male and female participants reported the lowest levels. Of these groups avoidant males reported the lowest levels.

Motivation for Healthiness

Male and female secure participants reported the highest levels of motivation for healthiness, whereas male avoidant and female anxious participants reported the lowest levels. Of these avoidant male participants reported the lowest levels.

Interpersonal Relations

Male and female secure participants reported the highest levels of interpersonal relations, whereas male avoidant participants reported the lowest levels.

Nutrition

Male secure and avoidant female participants reported the highest levels of Nutrition reported the highest levels, whereas male avoidant participants reported the lowest levels.

Physical Activity

Male and female Secure participants reported the highest levels of physical activity, whereas anxious female and especially avoidant male participants reported the lowest levels.

Spiritual Growth

Male and female secure participants reported the highest levels of spiritual growth, whereas anxious female and especially avoidant male participants reported the lowest levels.

Total Health Promoting Behaviours

Male and female secure participants reported the highest levels of total health promoting behaviours, whereas anxious female and especially avoidant male participants reported the lowest levels.

If the previous findings are examined on the basis of attachment style the following broad patterns emerge.

Secure attachment

Secure male and females participants reported the highest levels of health esteem confidence, motivation for healthiness, interpersonal relations, physical activity, spiritual growth and total health promoting behaviours.

Anxious attachment

Anxious males and females reported the highest levels of external health control of with anxious males reported the highest levels of this variable. Anxious males and females reported intermediate levels of health esteem confidence and motivation for healthiness in comparison to the secure and avoidant groups.

Avoidant attachment

Avoidant males reported the lowest levels of health esteem confidence, motivation for healthiness, interpersonal relations, physical activity, nutrition, spiritual growth and especially the total level of health promoting behaviours. Avoidant females reported the highest levels of nutrition.

4.3 Overview of findings in relation to previous research

In this section I will view the inferential strength of the data in relation to previous research and by attachment group. In general, the study findings give support to, and

extend the findings of previous research that were reviewed in the introductory chapter.

4.3.1 Attachment and health orientation

Secure attachment

The results in general support the proposed relationships between security of attachment and more appropriate health orientation suggested by Feeney, (1995) and Feeney & Ryan, (1994). Specifically, secure participants in this study tended to be more motivated to look after their physical health, were less anxious about their health, and rated themselves as better exercised and in better physical health, now, and in the future than participants in either of the insecure groups. Unlike insecure participants, secure participants appeared more motivated to maintain their health, took steps to ensure that they do not become completely unhealthy, and they believed that their health was a function of their own efforts and behaviours (internal health control). This last finding confirms Feeney's (1995) study where she found that secure participants tended to report that health outcomes are generally controllable, are unrelated to chance factors and tended to be less dependent upon others to help them maintain their health (external locus of control).

As was discussed in the literature review, there is good evidence to suggest that successful coping is associated with a degree of blunting or emotion focussed coping but only to the point that it does not disable the person through worry, rumination or the development of psychosomatic illnesses through suppression of

their distress. A balance of these coping strategies tends to lead to the development of a more problem-focussed coping style that increases their sense of internal control over their lives (Holahan & Moos, 1987; Lazarus & Folkman, 1984). Attachment styles are in fact coping strategies, and secure individuals have been shown to possess a self-structure that is coherent and flexible enough to promote problem-focussed coping. This would appear to enable them to motivate and co-ordinate their internal and external resources (e.g. social support) to confront and master difficulties in relation to themselves and their environments (Mikulincer, 1995).

Anxious attachment

Anxiously attached participants were also more anxious about their health and their current health status, and had more negative expectations about their future health in comparison to secure participants. In contrast to secure participants, anxious participants were also more concerned about how others perceived their health and had more concerns about their health both now and in the future, but they were much less motivated to improve their health status and to avoid poor health. Again these findings are in keeping with the findings of Feeney & Ryan (1994) and Feeney (1995) on health beliefs and the work of Miller (1981, 1989) on coping styles. Feeney found that anxious individuals tended to be more hypervigilant to symptomatic distress, report high levels of distressing symptoms, anxieties about their health. Miller terms these individuals as 'monitors'. Like the anxious participants in this study, they also appeared the most concerned about their health image and how others viewed them. Feeney found that anxiety over relationships

was highest in this group, and the highest levels of health image concern found in this study is supportive of Feeney's findings. Furthermore, the highest levels of negative affect that were also found in this group suggests that these participants tend to think negatively about themselves and imagine that others do the same, perhaps emphasising the inhibitory effect of anticipated rejection. Their inability to reassure themselves leading them to seek approval from others or help to problem-solve (Feeney, Noller & Hanrahan, 1994; Bartholomew & Horowitz, 1991; Borkovec, Lyonsfields, Wiser, & Deihl, 1993).

According to attachment theory, heightened attention to the reactions of others is related to inconsistent parenting experiences. Failure to obtain consistent support from others leads to displays of fear and anger which serve to maintain contact with caregivers but which interfere with the development of self-confidence and autonomy (Sroufe, 1977; Kobak & Sceery, 1988; Mikulincer, 1995). Feeney & Ryan's (1994) study that found a positive predictive relationship with anxious attachment, memories of inconsistent parenting and the number of visits that these individuals made to health professionals. Anxious-ambivalent individuals appearing to depend on others to motivate them rather than themselves. The fact that the anxious participants in this study reported the lowest levels of motivation for health and motivation to avoid unhealthiness found in this study is supportive of Feeney & Ryan's findings.

Avoidant attachment

Avoidant participants in this study appeared to report ambivalent feelings and opinions about their physical health. For example, whilst they appeared to feel the least positive about their physical health than either secure or anxious participants. They reported the lowest concerns about their health, had few concerns about how their health was perceived by others, and were less motivated to improve their health and take steps to avoid physical unhealthiness. These findings support those of Kobak & Sceery (1988) who found that avoidant adolescents reported fewer negative symptoms, and those of Feeney (1995) who found a negative association between avoidance and reported levels of exercise. Miller (1981, 1989) terms these individuals as 'blunters'. Fraley & Shaver (1997) and Kotler et al. (1994) have shown that just as the internal working models of avoidant individuals inform them to turn away from their caregivers and social support when they fear rejection, so do they suppress their distress through deactivating their attachment behavioural control system (Bowlby, 1980). Kotler et al (1994) found that avoidant attachment predisposes individuals to an emotion focussed coping style but also high levels emotional control. In this way they are able to disengage both the cognitive and emotional components of their attachment system that are associated with reductions in symptom reporting that places the avoidant individual at risk for physical and psychological disorder. The service and therapeutic implications of this finding will be discussed later in the chapter.

4.3.2 Attachment and health-promoting behaviours

Secure attachment

The findings of previous research (e.g. Feeney & Ryan, 1994; Feeney, 1995) were generally supported and were extended by the results of this study using the HPLP-2. This is an import advance and suggests that multidimensional measures such as the HPLP-2 are better at measuring health behaviours than the individual questions that were previously by Feeney (1995). Broadly, the results suggested that secure participants used health promoting behaviours more often than insecure participants. They were more able to utilise good social support networks, engaged in higher levels of physical activity, were more self-actualising (e.g. optimistic, contented, viewed life as challenging and interesting) and reported the highest utilisation of stress management techniques. It is noted that the strong positive associations that were found between use of social support with a tendency toward looking after psychological and physical health appears to confirm the interrelated nature of these variables.

Given the strong associations between attachment and relationship functioning (e.g. Feeney, Noller & Callan, 1994; Shaver & Brennan, 1992) this finding is consistent with the findings linking the quality of attachment relationships with health status (Kennedy, Kiecolt-Glaser & Glaser, 1988). This suggests that attachment is a useful developmental theoretical framework within which to understand the origins and the other variables (e.g. social support) that appear associated with health-promoting behaviours.

Secure participants reported higher levels of physical activity and more nutritious and balanced diets than insecure participants, but such differences were not significant and were only weakly negatively associated with anxious attachment and no other attachment variable. These findings mirror those of Feeney (1995), who also found no associations between increasing comfort with closeness (secure attachment) with improved exercise and dietary levels. As was suggested by Feeney, perhaps such findings reflect the overall good health of the undergraduates used in both studies and the relative satisfaction with their diets and their physical health.

Anxious attachment

Anxious-ambivalent participants appeared to be able to undertake some health promoting behaviours but they reported low levels of stress management techniques and physical activity, and were also the group least motivated to make positive lifestyle changes. It is noted that in this study there were negative correlations with all of these variables, the results of which confirm Feeney's (1995) finding that anxiety over relationships (anxious attachment) was negatively associated with exercise, and positively associated with desired changes to diet and exercise. Together, these findings suggest that whilst anxious-ambivalent individuals may wish to adopt more appropriate health-promoting behaviours, they tend to feel incapacitated and overwhelmed by their fears and anxieties. As previously mentioned, the highest levels of negative affect and the tendency towards high monitoring and low blunting associated with anxious attachment supports this. This suggests that anxious participants tend to focus upon negative aspects of their experience to the point of helplessness which further undermines and reinforces

their incoherent self-structure (Shaver & Hazan, 1993; Mikulincer & Orbach, 1995; Mikulincer, 1995), the outcome of which makes it less likely that they will adopt health promoting behaviours (Meichenbaum, 1992).

Avoidant attachment

Avoidant participants reported the lowest levels of health promoting behaviours, and were the group of participants most unlikely to utilise social networks and stress management techniques to help them deal with their distress levels (Mikulincer, Florian & Weller, 1993). Viewing these results in conjunction with the HOS results suggests that avoidant individuals tend to neglect their health through 'putting off' the decision to become more responsible for improving their physical health. Such health behaviours reflect their history of attempts to form relationships with rejecting parents, whereby they may believe that they are not the 'kind of person' that deserves to be looked after (Main & Weston, 1982; Mikulincer, 1995). Because of their childhood experiences, avoidant individuals also tend to adopt a detached self-reliant approach to coping. Their self-neglecting and rejecting style perhaps explains the high levels of negative affect and lowest levels of spiritual and physical self-care reported by avoidant participants in this study, and which appears to put them at greater risk for poor physical and psychological health (Kotler et al. 1994).

4.3.3 Gender, attachment and negative affect

After examining for interactive effects between gender and attachment style it was found that females reported higher levels of interpersonal relations, nutrition and the total health promoting behaviours score than males. These results may be linked to the pressures created by traditional sex-role stereotypes. For example, women are socialised to value emotional closeness as a means of support and method of resolving difficulties, whereas men are socialised to value independence and non-disclosure (Shumaker & Hill, 1991). Men tend to gain most of their support for their health concerns from their partners (Norcross, Ramirez & Palinkas, 1996). Furthermore, surveys suggest that women appear to eat more healthily and are more likely to intend to make healthier changes in their diets than men (Blaxter, 1990; Charney & Lewis, 1989; Milligan, Burke, Beilin, et al, 1997). Younger adults, especially women, who change their diets appear motivated to do so to change their appearance (e.g. slimness) rather than on health grounds (E. Leventhal, 1994).

When the influence of any interactive effects between gender and attachment were studied, the results suggested it was found that there was a significant two way interaction in the case of the variables external health control, health esteem confidence, motivation for healthiness, interpersonal relations, nutrition, physical activity, spiritual growth and the total health promoting score. Despite the use of a mixed gender sample, Feeney (1995) did not discuss her results in terms of gender differences, and therefore direct comparisons were not possible.

Secure male and female participants reported that they had the highest tendency to positively evaluate and feel confident about their physical health (health esteem confidence). They also appeared to be the most motivated to look after their physical health (motivation for health), avoid being unhealthy (motivation to avoid unhealthiness) and also engage in higher levels of health promoting behaviours per se, including a tendency to utilise social support, physical activity, and engage in spiritual growth (e.g., self-actualising attitudes and behaviours suggesting a tendency to purposeful commitment to oneself and with life).

Anxious males and females reported the highest levels of external health control of which anxious males reported the highest levels. Anxious females also reported high levels of health anxiety and low levels of health esteem confidence, motivation to avoid unhealthiness and motivation for healthiness in comparison to the secure group. This suggests that much as with the between groups analysis, female anxious-ambivalent individuals may be concerned about their health but do not have the motivation to adopt more appropriate health-promoting behaviours and instead feel incapacitated and overwhelmed by their fears and anxieties (Mikulincer, 1995; Meichenbaum, 1992).

Avoidant males reported the lowest levels of health esteem confidence, motivation for healthiness, interpersonal relations, physical activity, nutrition, spiritual growth and especially the total level of health promoting behaviours. In contrast, avoidant females reported the highest levels of nutrition, which was a surprise given the tendency for avoidant individuals towards self-criticism and the association with femaleness and eating difficulties in young populations similar to the one that

comprised this study (Agras & Kirkley. 1986). One possible explanation could be that avoidant females might eat a healthier diet in order to appear more attractive to reduce the risk of rejection. This would require further research to confirm.

Because of known associations between gender and attachment upon health beliefs and health behaviours (Feeney, 1995; Feeney & Ryan, 1994; Watson & Pennebaker, 1989), the influence of negative affect upon the study findings was examined. It was found that increased levels of health anxiety, health image concern and a decrease in ability to utilise stress management techniques were associated with insecure attachment. These results appear to be mediated by the levels of negative affect reported by participants, and were highest in the case of insecure males and females. These results suggest that negative affect has an important mediating effect upon certain health-related attitudes that appear most associated with anticipated rejection, and are consistent with recent literature linking insecure attachment styles with related variables such as neuroticism, social anxiety and depression (Feeney, Noller & Hanrahan, 1995; Shaver & Brennan, 1992; Strahan, 1995).

Furthermore, the fact that negative affect only influenced three out of seventeen dependent variables (health anxiety, health image concern and stress management) in this study, suggests that the non-significant findings of remaining variables may be more reflective of the basic interpersonal attributes that are associated with the different internal working models of attachment. Conversely, participant's anxieties about health and how one's health is perceived by others may be influenced by an interaction between the quality of participant's internal working models and negative affect, suggesting that the health perceptions of insecurely attached

participants are mediated by increased negative affect that can compromise stress management strategies (Miller et al. 1996; Russell & Cutrona, 1991).

Whilst further research is need to reproduce and confirm these results, together these findings support Kotler et al's (1994) finding that avoidantly attached males and females are more at risk of physical and psychological problems. This is especially the case with male avoidant's, who despite their anxieties for their current and future health do not feel motivated enough to mobilise their resources into health promoting strategies and behaviours. The reasons for these findings are unclear, but it appears likely that socio-cultural expectations influence the working of the attachment behavioural control systems that may in turn affect individual action-specific cognitions with regard to diet, exercise and emotional health. These issues will be discussed in more detail in the next section.

4.3.4 Attachment and theoretical models of health beliefs and behaviours

Given the nature of this investigation, several theoretical models of health beliefs and behaviour were reviewed in the introductory chapter in conjunction with the attachment literature. These included the Health Belief Model (Becker, 1974; Janz & Becker, 1984); Protection Motivation Theory (Rogers, 1983; Maddux & Rogers, 1983); and the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). Of these theories, the theory of reasoned action, now termed the theory of planned behaviour (TPB: Ajzen, 1985, 1987) is in general felt to be the most complete theory of health beliefs (Abraham & Sheeran, 1997).

When these theories were reviewed in the introductory chapter there appeared to be significant links between attachment and important health belief concepts such as motivation, self-esteem, self-efficacy, meta-cognition, control, and emotional regulation in the prediction of health behaviours (Abraham & Sheeran, 1997). The findings of this study appear to confirm the importance of these concepts and their relation to an individual's attachment style. For example, security of attachment was found to be associated with a decrease in health concerns and anxieties about current and future health. In contrast, increased levels of anxious attachment were shown to be associated with increases in health concerns and anxieties, again in terms of the present and future. Ajzen's (1985) TPB would suggest that this is because unlike anxious-ambivalent individuals, the internal working models of secure individuals lead them to have fewer doubts and fears about their health and are less concerned about how others perceive their health. The results of this study appear to confirm this and suggest that secure individuals feel that they have the capability, self-efficacy and motivation to carry out health-related actions (i.e. perceived behavioural control) and utilise health-promoting behaviours to improve their current and future health status. They are less likely than insecurely attached individuals to be preoccupied with anxiety and self-doubt which can interfere with intention formation, rehearsal and perceived behavioural control (Fazio & Williams, 1986).

As was highlighted in the introductory chapter, Schwarzer (1992) has outlined a new model of self-efficacy that has been integrated into the TRA and the TPB. This addition highlights distinctions between intention formation and translating intentions into actions. The action phase includes the formulation of plans of action,

specific action control perceptions and evaluations of likelihood of success. Such plans also take into account drawing upon social support to increase the chances of success and as we have seen, insecure attached individuals have difficulty in mobilising levels of support to help them achieve their goals. The findings of this and other studies suggest that avoidantly attached participants, especially avoidant males, tend not to use support seeking. Instead they prefer to adopt a more self-reliant approach, whereas anxiously attached participants tend to utilise social support but become dependent on such support for advice (Shaver & Hazan, 1993). Interactions between traditional sex role stereotypes towards being male and female with increased and decreased (respectively) emotional expression (Gilligan, 1982), listening skills (Miller, Berg & Archer, 1983) and interpersonal sensitivity (Hall, 1978) would appear to account for a proportion of this finding. Either way, the high levels of negative affect, health anxiety and health image concern, together with the lowest levels of motivation, and health promoting behaviour reported by insecurely attached participants (especially avoidant males) in this study appears to support Schwarzer's model, and the TPB (Ajzen, 1985).

Bandura (1992) has proposed that an individual's beliefs and attributions about the causation of events may interfere with health promoting behaviour through impacting on self-efficacy. For example, individuals who put their successes down to luck, as did insecurely attached individuals (especially insecure males) in this study appear to have lower levels of confidence in their ability to successfully manage their current and future health (Hospers, Kok & Stecher, 1990; Ewart, 1992). The significantly lower levels of health esteem confidence (i.e. a tendency to feel confident about one's physical health), internal health control, health

expectancy and motivation to avoid unhealthiness reported by the avoidant and anxiously attached participants in this study (especially the male avoidant participants) appears to be supportive of links between Bandura's (1992) findings and attachment style.

Another important aspect of the TPB is the inclusion in the model of the potential for other people's views to influence intentions and health behaviours; a feature that is represented by 'subjective norm'. Abraham & Sheeran (1997) highlight that a subjective norm is comprised of two beliefs, one concerning the social acceptability or extent to which the health behaviour will be approved of by family and friends, the other concerning the degree to which the individual wishes to conform to what others feel we should do. As has already been demonstrated in previously reviewed studies and this study, attachment theory has much to add to the debate about these issues. Anxiously attached participants in this study had significantly higher levels of concern about how their health was perceived by others in comparison to securely attached participants. This finding is very much in keeping with reviews of attachment research (e.g. Feeney & Noller, 1996) that suggest that anxious and avoidantly attached individuals are concerned far more with anticipated rejection and abandonment than secure individuals. It would be expected that insecure individuals would be less motivated to change their behaviour unless it was felt that others sanctioned such behavioural changes. However, the significant but weak association between health image concern and motivation for health found in this study suggests the influence of a complex mediating system that requires further investigation.

Attachment theory with its roots in developmental and cognitive psychology offers potential explanations for health beliefs and health behaviours across the life span. If these findings are viewed within both an attachment-vulnerability paradigm (West, Livesley, Reiffer & Sheldon, (1986) and a stress-vulnerability paradigm (Folkman, Lazarus, Gruen and DeLongis, 1986), then it becomes possible to infer that an individual's perception and experience of stressful life events will depend upon a variety of vulnerability factors. These will include issues of emotional control, quality of social support, self-confidence, and self-efficacy which the attachment literature suggests are at least partly determined or influenced by an individual's attachment style. This approach suggests that the extent to which an individual will use emotion-focused or avoidant-focused coping strategies depends upon their attachment style and the degree to which an event is experienced as stressful. Together these variables contribute to the adoption of healthy or unhealthy health beliefs and behaviours and eventual health outcomes.

Whilst longitudinal research is needed to verify these proposals, the glaring absence of a theoretical model to act as a framework to guide and be tested by such research remains an obstacle for further study. Therefore, in the final chapter, after considering the methodological issues that may have influenced the findings of this study, I will propose a theoretical model that will link attachment and Ajzen's TPB that will be used to inform the clinical and service implications of the findings of this study.

CHAPTER 5

Conclusions

5.0 Conclusions

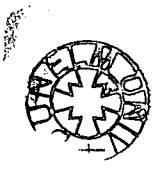
Given that this research area is in its infancy, this study has been useful in clarifying links between attachment and health-related variables in a sample of relatively healthy young men and women. Whilst the study findings generally support previous research, some caution is advisable in forming conclusions on the basis of these results. A number of specific issues in relation to these points will now be considered.

This study was by necessity conducted within a specific time frame. This led the author to focus upon a specific group of participants in order to examine certain hypotheses. Because of such limitations, the possibility of sampling error and the number of multiple comparisons means that the probability of inflated Type 1 and 2 errors must be considered. For example, the generalisability of the study findings is limited because this study utilised a mixed undergraduate sample within a faculty within a single institution of higher education, and therefore the findings may not be representative of undergraduates within the university under study or at other universities. Certainly, a larger mixed gender sample drawn randomly from the general population would improve the validity of the results in relation to 'normal' populations and reduce the possibility of sampling error especially in examining differences between gender and insecure groups. This is an issue with collecting data from insecure participants who naturally occur with less frequency than secure participants, and is a particular problem with anxious-ambivalent individuals who form 15-20% of the general population (Feeney & Noller, 1996).

The majority of findings in this study were based upon probabilities at the 1% level and below, and this appears to reduce the possibility of committing a Type 1 error. However, self-report measures are vulnerable to biases of social acceptability and denial (a particular problem of avoidant attachment) and this may have increased the risk for Type 2 error. The anonymity of respondents and the fact that only eighteen participants of the initial 382 participants approached failed to complete and return their questionnaires may have mitigated against this.

As participants were drawn from a variety of courses some of whom may have also attended other courses, strictly speaking the groups cannot be said to be 'independent' of each other. However, they were assumed to be so. This was because a small number of participants were drawn from a much larger sample comprising different undergraduate years, courses, and modules reduced the possibility of interaction effects and committing a Type 1 error. However, as the level of significance and coherence of the patterns of the AAQ with the HOS and HPLP-2 scores found in this study are in line with the findings of previous research, this suggests that the risk of committing a large number of Type 1 and 2 errors is probably low.

Finally, in common with most attachment research, the cross-sectional and correlational design of the study prohibits establishing the nature of the processes underlying research findings, therefore the results have to be regarded as indicative rather than conclusive. Within these limitations, the results are in line with and extend previous clinical and theoretical research into the developmental origins of health beliefs and health behaviours.



So far this thesis has highlighted the potential links between attachment theory as a developmental theory of emotional control with established bodies of health-related research such as monitoring and blunting coping styles (Miller, 1979; 1981) and models of health beliefs and health behaviours (e.g. Ajzen, 1985). It is notable that as yet there has been no attempt to link these areas of research into a coherent theoretical model that can inform both research and therapy. As a result in the next section, the clinical and service implications of the findings of this study will be discussed in relation these established areas of research, out of which a model of attachment and health beliefs and health behaviours is proposed.

5.1 Implications for clinical practice and service development: A model of attachment, health beliefs and health behaviours.

In outlining the role of health psychology, Corney (1996) suggests that research is useful in guiding psychological interventions on three levels: Primary prevention (e.g. health promotion campaigns), improving early detection and treatment (e.g. screening), and patient care and support (e.g. therapeutic interventions). The service implications of the findings of this study for counselling, psychology and medical services will now be discussed in relation to these three levels of care and attachment style.

Secure attachment

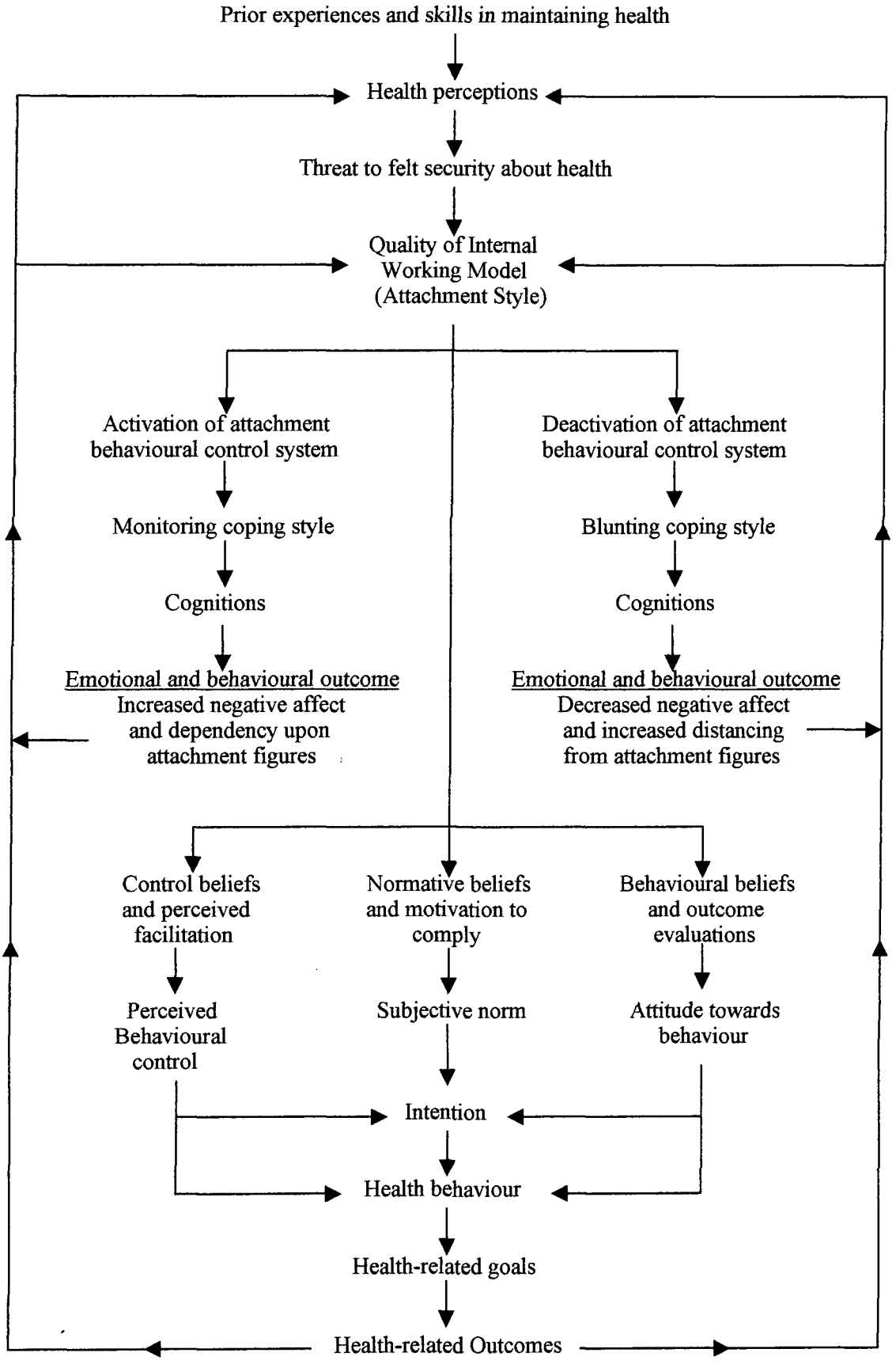
Secure individuals are likely to make fewer demands upon services, because they are likely to have higher levels of coping resources than insecure individuals. Secure individuals are more likely to be able to cope and adapt to the demands of ill-health

without the need to be referred or refer themselves to counselling and health services and are therefore the group most likely to benefit from health promotion campaigns. Furthermore, they are more likely to attend and require briefer interventions to help them change and adapt.

A growing body of research has been reviewed which appears to connect security of attachment with an adaptive mix of monitoring and blunting styles that is associated with adaptive problem-focused coping and health-promoting behaviour. However, what is absent from the literature is conceptual model that has the potential to clarify links between these areas of research and how attachment style could influence health beliefs and health behaviour. Such a model will now be proposed that links attachment theory, coping styles (monitoring and blunting), with Ajzen's (1985) Theory of Planned Behaviour (TPB) model, a diagrammatic representation of which can be found in figure 5.1 overleaf.

The reviewed research suggests that unlike insecure individuals, when secure individuals feel that their sense of felt security in relation to their health is threatened they tend to adopt emotion-focused strategies. However, this is only to the point that they are not incapacitated by their worries. This is because they are able to use blunting strategies (e.g. disavowal) to help them suspend their concerns so that their attachment behavioural control systems are deactivated, but this is not to the point whereby they deny their feelings. In this way their levels of negative affect and associated cognitions can decline to a level that are less likely to interfere with the adoption of problem-focused coping strategies that have been shown to be associated with good health outcomes (Millar & Millar, 1993; 1995).

Figure 5.1. A theoretical model of health beliefs and health behaviours that incorporates attachment theory (Bowlby, 1982), monitoring and blunting coping styles (Miller, 1979, 1981), and the Theory of Planned Behaviour (Ajzen, 1985, 1987).



It is noted that Mikulincer and his colleagues suggest that secure individuals have a more balanced, complex and coherent self-structure whose level of self-confidence allows them to confront life's problems with a sense of mastery, optimism and flexibility that reflects the adaptive use of such coping styles (Mikulincer et al., 1993; Mikulincer, 1995).

If this adaptive self-structure is viewed in relation to the components of the TPB (see figure 5.1), then in terms of perceived behavioural control, securely attached clients are more likely to correctly appraise the level of difficulty associated with health-promoting tasks, and feel that they have the capability and self-efficacy to facilitate such changes. In contrast to insecurely attached individuals, secure individuals with their higher levels of self-worth are more likely to believe that they are worth looking after. Perhaps because of their previous positive experiences of looking after their health, they will also tend to have more positive attitudes towards health promotion and health promoting behaviours. In relation to the subjective norm, unlike insecurely attached individuals the securely attached will feel much less anxious and concerned with issues of rejection or abandonment from others if they are unable to attain their health-related goals. As a result, their lower experienced levels of negative affect and higher levels of positive affect and positive cognitions will mean that their overall level of intention to undertake health promoting behaviours is likely to be high (Miller et al. 1996).

For the securely attached client who wishes to become more health-promoting, the findings of this study and previous research suggests that these clients would come to therapy with a good or reasonable history of coping, health promoting behaviours,

and interpersonal relationships. They would tend to regard the therapeutic relationship as a relatively 'secure base' to explore their expectancies both in relation to themselves, their significant others and their therapist. Perhaps because they are more likely to view their therapist and the therapeutic relationship as helpful and less threatening, they would also feel more able to identify, explore and act upon their perceived strengths and weakness in relation to their attempts at becoming more health-promoting.

Screening through the use of the AAQ would allow therapists to adopt therapeutic approaches that would better 'fit' the needs of clients and thereby potentially improve therapeutic outcomes. The results of this study suggest that this would be especially important in the case of male avoidant individuals whose health beliefs and behaviours appear to place them at greatest risk of developing physical and psychological ill health. The AAQ takes minutes to complete and therefore could be used by clinicians (e.g. GP's physicians, dieticians) and therapists to identify insecure populations whose internal working models and coping styles appear to complicate medical and psychological treatments. If appropriate, clients could then be referred to local counselling and psychology services.

Anxious attachment

Anxiously attached individuals are likely to place the greatest demands on counselling and health services and they would find it difficult to utilise information gained from health promotion campaigns. Whilst they would be very likely to attend, once referred their symptomatic focus would make it important for services

to assess and treat possible underlying emotional causes to their difficulties rather than deal with their symptoms. Anxiously attached individuals tend to exhibit a negative self-structure, one which is characterised by negative self-attributes and high accessibility of negative affects in organising self-relevant information (Mikulincer, 1995). These clients often feel confused, overwhelmed and tormented by feelings of anxiety and hostility that reflect their childhood experiences, expectations and feelings about the availability or perceived unavailability of their caregiver. The high levels of affect that they encounter tend to compromise their ability to collaborate and take in their therapist's words and support, and it is this that appears to make therapy with anxiously attached clients so difficult.

The internal working models of anxiously attached clients reflect their preoccupation with possible rejection or abandonment in relation to how they appear or what they may do or say. This feared 'loss dynamic activates their attachment behavioural control system leading them to adopt proximity seeking behaviours (e.g. crying, remaining close to their attachment figure) yet at the same time they remain vigilant for losses, and as a result they remain in a highly aroused affective state. In the same way that anxiously attached clients fear the loss of another they also fear the loss of perhaps their most precious object; their health.

In order to deactivate their health-related attachment behavioural control system and attain the set goal of felt security, anxiously attached clients would tend to adopt a defensive avoidant-focused blunting style that aims at suppressing their worries and concerns for their health. Fraley & Shaver (1997) suggest that what differentiates anxious and avoidant attachment is that anxiously attached individuals tend to have

less highly developed defensive strategies. In the absence of such strategies, attempts to suppress unwanted thoughts result in an increased awareness of them thereby creating a feedback loop and increased vigilance for the thought they are trying to suppress. In these circumstances anxiously attached individuals tend to adopt health-protecting behaviours whereby they vigilantly scan or monitor their bodies for symptoms, aches and pains that threaten their sense of felt security. Whilst they may try to adopt more problem-focused health promoting behaviours (e.g. stress management, or maintaining their exercise programme), their highly charged affective state and preponderance of intrusive negative cognitions tend to reinforce their negative internal working model of self resulting in a decreased ability to adopt and maintain health promoting behaviours.

If these dynamics are viewed in terms of the TPB (see figure 5.1), then in terms of perceived behavioural control, anxiously attached clients are likely to exaggerate the nature of the task or the chances of failure. With regard to self-efficacy, much as they are likely to pronounce themselves as 'useless' or a 'failure' in relation to their perceived ability to take care of the past and present health, they are also likely to predict that they are likely to fail with regard to their future health care. In this way their negative outcome expectancies are likely to influence their attitudes towards that behaviour (i.e. that stress management or exercise is a waste of time). In relation to the subjective norm, they may feel that others may not approve of their efforts or that they may reject or disapprove of them if they fail, if this is the case then this would also influence intention and the likelihood of adopting the health promoting behaviour.

If they are not able to produce the evidence to contradict these beliefs and thoughts then they will be unable to deactivate their attachment behavioural control system and they will continue to adopt an emotion focused monitoring coping style leading to the development of a negativistic cognitive cycle (Miller et al. 1996). This could lead to engaging in undesirable health behaviours (e.g. unhealthy eating) that reinforce their sense of helplessness and an external locus of control that reflects their negative self-structure (Mikulincer, 1995; Coyne, Aldwin & Lazarus, 1981; Russell & Cutrona, 1991).

As their self-structure makes it difficult for anxiously attached clients to resolve their difficulties on their own, an alternative strategy would be for them to heighten their attachment needs in order to ensure the availability of their caregiver who they depend upon to help them with their difficulties (Cassidy, 1994, Main & Solomon, 1986). As has been previously highlighted, such internal structures reflect their experiences of loss, rejection and non-acceptance by their attachment figure(s) that guide their negative expectations of others. Because of their low self-esteem and separation anxieties, they would tend to agree and comply with their therapist or medical practitioner, but then not feel able or motivated to develop more adaptive problem-focused coping strategies that would help them individuate and cope with their symptoms and distress as well as become more responsible for their physical and emotional well-being.

If the aim of therapy is to help insecurely attached clients to become more secure, autonomous and health promoting, therapists who adopt an attachment perspective would need to work with their clients on helping them to resolve their underlying

emotional issues (e.g. anger, fear). For example, if the client's experience of being able to express their unresolved transferential feelings in relation to their therapist is a positive and enabling one, then such experiences have great potential to challenge the client's negativistic internal working model. This may occur to the point that they experience a greater sense of self-worth, self-efficacy, internal control, motivation and optimism that the TPB indicates is so important in adopting health promoting behaviour.

For the anxiously attached client the key therapeutic issue facing them is to feel able to express their appropriate anger at separation, or when they feel that their therapist is withdrawing or has simply 'failed' them (e.g. lapses of memory). According to attachment theory this level of expression would have been missing in childhood. The child never, or seldom, felt able to protest about the inconsistent way that they were being handled and not considered, for fear of being abandoned and rejected. In therapy the client would need to feel able to protest in the knowledge that care will not be withdrawn. The challenge for the therapist is to remain attuned to the subtle ways in which their clients will express their feelings and protests.

It would be important for the therapist to highlight these issues as an important focus for therapy. Not to do so may lead to both therapist and client becoming enmeshed in countertransference feelings. Holmes (1996: 25) highlights that typical countertransference feelings on the part of therapists include feeling "stifled, crowded out or coerced into helping the patient rather than listening to him or her, overwhelmed by the patient's distress, and invaded by a sense of helplessness. There may be an ancient mariner-like sense of being caught in the grip of a narrative that

must be simply listened to until it is played out." If these issues are not clarified and linked with past experiences there is a greater likelihood that the therapist or client will emotionally and perhaps physically withdraw, with parties perhaps each perceiving the other as withholding or not progressing – a phenomenon that psychodynamic therapists term projective identification. If left unrecognised and unchecked this may lead to the service reinforcing the very difficulties in their clients that they are aiming to alleviate.

Avoidant attachment

Avoidant and especially male avoidant individuals are the least likely to attend, refer themselves, or continue to attend counselling services. Because of their tendency towards long-term self-neglect they are the most likely to be in need and find it difficult to motivate themselves to make use of health promotion materials. Like anxious-ambivalent individuals, avoidant individuals would be the group most likely to benefit from screening and possible referral to counselling and psychology services, but they would be the group least likely to attend or continue to attend for appointments. Once identified, it would be important to follow-up these clients as the deactivating strategies they tend to adopt (e.g. blunting) makes it less likely that they will undertake health protecting or health conserving strategies (e.g. physical self examination, eating a healthy diet), that places them at greater risk of psychological and physical ill health through late diagnosis (Greer & Morris, 1975) and psychosomatic illness such as heart disease (Kotler et al. 1994; Crawford, 1981; Passchier, Gaudswaard, Orlebeke & Verherhage, 1988; Hazan & Shaver, 1987; 1990; Kobak & Sceery, 1988).

From a therapeutic perspective, avoidant individuals tend to place themselves in a positional relationship whereby they experience great anxiety about being rejected by a significant other should they express their true feelings and concerns. In relation to the theoretical model proposed in figure 5.1, avoidant individuals, unlike anxious individuals tend to use blunting strategies to suppress their anxieties and anger to a far greater extent. The avoidant adult has been shaped by decades of emotional restriction, mistrust and inevitably real experiences of rejection that have reinforced their internal working models. Mikulincer (1995) suggests that avoidant's self-structure, whilst more positive than anxious-ambivalent's reflects a fragile sense of self-esteem, one that finds great difficulty in tolerating a sense of failure or rejection that is more reflective of experience of their past caregivers as being more consistently unavailable. In response they have learned to be more self-reliant and reject and suppress their feelings.

With regard to their attitudes towards the adoption of health behaviours and the TPB, much as with anxiously attached individuals, avoidants are likely to distort and exaggerate the nature of the task or the chances that they may fail. Mikulincer (1995) suggests that in comparison to anxiously attached individuals, avoidants may be more able to mobilise their resources to be health promoting, but they are more likely to be self-critical and rejecting towards themselves in the event of perceived failure perhaps leading to lower levels health promoting behaviours. Much as they may have felt in relation to their caregivers they may feel that they are not 'worth' conserving, their negative sense of self reflecting their outcome expectancies and attitudes towards that behaviour (i.e. that like themselves, exercise is 'useless'). In relation to the subjective norm, whilst both avoidant and anxiously individuals may

feel devastated by if they are rejected as a result of failure, perhaps the internal working models of avoidant individuals lead them to be more self-critical in response. If they are not able to produce the evidence to contradict their beliefs and thoughts then they will continue to utilise deactivating coping styles (e.g. blunting, interpersonal distancing) that will reinforce their negativistic models of self and other and compromise their intentions for current and future attempts at health promotion.

Because of their negative experiences and expectancies within close relationships, it would be very important for therapists and clinicians to initially focus upon developing a good working alliance with their clients. Due to their fears about their environment, avoidant clients tend to have a highly developed internal and intellectual life and they may have received some parental praise for their intellectual achievements (Bartholomew, 1990; Crittenden, 1995). Initially, it may be possible and appropriate for the therapist to engage with their clients about such less threatening intellectual matters, especially if their difficulties are framed in more distant cognitive terms (Dozier, 1990). However, therapists should be prepared to be rejected and experience frustration countertransferences in relation to their avoidant clients. For example, studies have found that avoidant clients are more likely to negatively evaluate their relationship with their therapists, especially in the early stages of therapy (Malinckrodt, 1991; Satterfield & Lyddon, 1995). Dozier (1990) suggests that the therapist's task is to resist the pull to respond in ways (e.g. distancing) that are consistent with their client's internal working models. To be therapeutic the therapist needs to provide an environment that encourages the client to explore their working model but which does not compromise the client's ability

to appropriately respond to such challenges (e.g. assertion). In the case of avoidant individuals the therapist needs to carefully promote the exploration of psychological issues, helping the client think about why such emotionally intimate work feels so unsafe.

Such an environment may be provided through therapists helping avoidant clients with concrete problem-solving tasks that may facilitate trust within the working alliance. It may also be useful (if appropriate) for therapists to be more self disclosing than usual as this stance may encourage a shift away from expected rebuttal to one where the client is more able to entertain a feeling of trust and vulnerability within the therapeutic relationship. Hoffman (1995) notes that therapist self-disclosure can offer a client a special kind of recognition, for example, the fact that their therapist is willing to share an aspect of their personal self outside of the therapeutic relationship communicates their shared humanity. If a good enough working alliance is established then it is more likely that long repressed emotional needs will begin to emerge within the therapeutic relationship. Necessarily, working through perceived or actual 'failures' on the part of the therapist would be a very important aspect of the therapy as such transference would offer a 'bridge' between current experiences and past experiences involving unresolved feelings concerning trauma and loss (Burke, 1994).

5.2 Considerations for future research

Given the limited research that has been carried out in this research area the findings of this study must be regarded as tentative and as such replications of this study using a range of populations would be very useful. Future research would need to study clinical and non-clinical mixed gender populations of varying ages. With regard to clinical populations, evidence exists that attachment representations are thought to be particularly apparent when encountering stressful situations (Bartholomew, 1990; Bowlby, 1969; Simpson, Rholes & Nelligan, 1992; West, Livesley, Reiffer & Sheldon, 1986) and are believed to relate to affect regulation, emotional expression (Kobak & Sceery, 1988), health maintenance and susceptibility to disease. Goldberg's (2000) recent review of attachment and physical health highlights several studies that have linked avoidant attachment with stress-related diseases such as ulcerative colitis (Maunder, Lancee, Greenberg & Hunter, 1999) and diseases such as diabetes where compliance is vital (Ciechanowski, Katon & Hirsch, 1999). One would expect similar findings with regard to other diseases where stress and conservation behaviours have been shown to play a significant role in immunology and disease progression (e.g. Rheumatism, AIDS, and Cancer).

If the findings of this study are viewed within both an attachment-vulnerability paradigm (West, et al. 1986) and a stress-vulnerability paradigm (Folkman, Lazarus, Gruen and DeLongis, 1986), then it is possible that an individual's perception and experience of stressful life events as well as their susceptibility to disease will depend upon a variety of vulnerability factors. These will include issues of

emotional control, quality of social support, self-confidence, motivation, self-efficacy, which as we have seen, are partly determined or influenced by an individual's attachment style. This approach suggests that the extent to which an individual will use specific coping strategies (e.g. monitoring vs. blunting) also depends upon their attachment style and the degree to which an event is experienced as stressful the outcome of which will influence their health behaviours, vulnerability to illness and disease and health outcomes. Longitudinal studies would be essential to better understand the causal relationships between such variables as social support, age, gender, and symptomatology with attachment and health-related variables (e.g. physiological markers for disease).

Further research based upon Bartholomew's (1990) four-group model of attachment would also be an important advance. Bartholomew & Horowitz (1991) have produced a four-group measure similar to that used in this study, that is most characteristic through the addition of the dismissing group whose members have been drawn from the secure and avoidant groups. Dismissing and avoidant individuals emphasise the importance of achievement, self-reliance and emotional repression (i.e. anger and anxiety) whereby they maintain a sense of self-worth and emotional equilibrium at the expense of intimacy and health promoting behaviours. These tendencies have been linked with the so called Type A behaviour pattern which has been identified as a risk factor for cardiovascular disease (Matthews, 1988). Future research could utilise other measures of attachment such as the Attachment Style Questionnaire (Feeney, Noller & Hanrahan, 1994) or the Experiences in Close Relationships Scale (Brennan, Clark & Shaver, 1997) that these studies have shown reflect attachment attitudes towards self and others (e.g.

anxiety and avoidance). These measures could be used with the HOS and with established Type A measures such as the Jenkins Activity Scale (Jenkins, Rosenman & Friedman, 1967) or measures of repressive coping such as Byrne Repression-Sensitisation Scale (Byrne, 1964) and the Marlow-Crowne Social Desirability Scale (Crowne & Marlowe, 1964).

Another way of better understanding such links would be to use measures of attachment and repressive coping in relation to specific questions aimed at testing the relative efficacy of direct predictors associated with components of the TPB (e.g. attitudes, subjective norms, perceived behavioural control) in relation to different health behaviours (e.g. exercise, diet, stress-management, medication compliance), (see Weinman et al. 1995). In this way it would be possible to examine the validity the new model of attachment, health beliefs and health behaviours proposed in this thesis.

Finally, given that the vast majority of attachment research has been quantitative in nature there is a real need to use qualitative methods or mixed method designs in future investigations of attachment and physical health. Combining these methodologies would permit data triangulation that would be an important advance and provide more detailed and broader ideographic understandings in this area of research.

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7.0 Appendices

7.1 Appendix A – Tables.

Table 7.1. Indicating the skewness and kurtosis statistics with standard errors of the sub-scales of the independent variables; the sub-scales of the Adult Attachment Questionnaire (AAQ) and the dependent variables; the sub-scales of the Health Orientation Scale (HOS, the Health Promoting Lifestyle Profile-2 (HPLP-2) and the Positive and Negative Affect Scale (PANAS).

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
AAQ-SEC	-.215*	.138	-1.197*	.275
AAQ-AMB	.115	.138	-.966*	.275
AAQ-AVD	.473*	.138	-1.147*	.275
HOS-EHC	.623*	.138	.103*	.275
HOS-HA	.250	.138	-.622*	.275
HOS-HE	-.221	.138	.105*	.275
HOS-HEC	-.187	.138	-.177	.275
HOS-HIC	.244	.138	-.932*	.275
HOS-HS	-.154	.138	-.457	.275
HOS-IHC	-.607*	.138	-.089	.275
HOS-MAU	-.416*	.138	-.175	.275
HOS-MFH	-.096	.138	-.812*	.275
HOS-PHC	-.447*	.138	-.182	.275
HPLP-HR	.552*	.138	.345	.276
HPLP-IR	-.261	.138	-.097	.276
HPLP-NTN	-.214	.138	.424	.276
HPLP-PA	.106	.138	-.050	.276
HPLP-SG	-.206	.138	-.652*	.276
HPLP-SM	.421*	.138	.087	.276
HPLP-TOT	-.137	.138	.659*	.276
PANAS-NA	551*	.138	-.356	.276
PANAS-PA	-.251	.138	-.128	.276

*Indicates non-normality.

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Table 7.2. Indicating levels of significance of the demographic variables, age and SES, the independent variables, and the dependent variables between attachment groups using Levene's test of Homogeneity of variance.

Sub-scale	Levene	Df1	Df2	Sig.
AGE	1.49	2	310	.227
SES	1.87	2	310	.152
Secure	6.14	2	310	.462
Ambivalent	3.65	2	310	.598
Avoidant	6.63	2	310	.0001***
HPLP-Health responsibility	.308	2	307	.735
HPLP-Interpersonal relations	1.239	2	307	.291
HPLP-Nutrition	.384	2	307	.682
HPLP-Physical activity	.433	2	307	.649
HPLP-Spiritual growth	.104	2	307	.901
HPLP-Stress management	1.887	2	307	.153
HPLP-total scale score	.674	2	307	.510
HOS-Private health concern	.093	2	309	.911
HOS-Health image concern	.220	2	309	.803
HOS-Health anxiety	.705	2	309	.495
HOS-Health esteem confidence	2.220	2	309	.110
HOS-Motivation to avoid unhealthiness	.673	2	309	.511
HOS-Motivation for health	.481	2	309	.618
HOS-Internal health control	.979	2	309	.377
HOS-External health control	.917	2	309	.401
HOS-Health expectancy	.231	2	309	.794
HOS-Health status	.949	2	309	.388
PANAS-Positive affect	1.519	2	308	.221
PANAS-Negative affect	6.584	2	308	.002**

(= p. < .05; ** = p. <.01; *** p. =<.001)*

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Table 7.3. Indicating levels of significance of the dependent variables after performing a two-way ANOVA (gender and attachment) using Levene's test of Homogeneity of variance.

Sub-scale	Levene	Df1	Df2	Sig.
HOS-PHC	1.079	5	306	.372
HOS-HIC	.431	5	306	.827
HOS-HA	.860	5	306	.508
HOS-HEC	2.152	5	306	.059
HOS-MAU	.880	5	306	.495
HOS-MFH	2.138	5	306	.061
HOS-IHC	.452	5	305	.812
HOS-EHC	2.612	5	306	.025*
HOS-HE	1.040	5	306	.395
HOS-HS	1.019	5	306	.406
HPLP-TOT	1.344	5	304	.248
HPLP-SG	1.566	5	304	.169
HPLP-HR	.636	5	304	.673
HPLP-PA	.376	5	304	.865
HPLP-NTN	1.181	5	304	.318
HPLP-IR	1.356	5	304	.241
HPLP-SM	1.061	5	304	.382
PANAS - NA	1.022	5	305	.405

(= p. < .05)*

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

PANAS- NA = Negative affect

Table 7.4. Indicating 2-tailed Spearman's rank order correlations (two-tailed) between the demographic variable, Age, and the sub-scales of the HOS, the AAQ,, the HPLP-2, and the PANAS. (N = 312)

Sub-scale	**PHC**	**HIC**	**HA**	**HEC**	**MAU**	**MFH**	**IHC**	**EHC**	**HE**	**HS**
AGE	.14*	.00	.01	.15**	.14*	.12*	.11	-.02	-.05	.08
AAQ-Secure	.10	-.07	-.20**	.24**	.14*	.18*	.27**	-.17**	.20**	.38**
AAQ-Avoidant	-.01	.06	.21**	-.23**	-.07	-.12*	-.17**	.23	-.26**	-.21**
AAQ-Anx/Amb	-.06	.10	.13*	-.13*	-.16**	-.21**	-.15**	.15**	-.12*	-.08
HPLP-Health responsibility	.42**	.19**	.15*	.22**	.24**	.22**	.17**	-.24*	.015	.06
HPLP-Interpersonal relations	.29**	.01	-.03	.22**	.19**	.16**	.25**	-.13*	.18**	.17**
HPLP-Nutrition	.32**	.10	.02	.38**	.46**	.42**	.27**	-.21**	.17**	.26**
HPLP-Physical activity	.38**	.06	.07	.52**	.61**	.69***	.39**	-.31**	.34***	.50**
HPLP-Spiritual growth	.37**	-.06	-.16**	.47**	.29**	.30**	.25*	.27**	.29**	.33**
HPLP-Stress management	.30**	.05	-.12*	.38**	.33**	.29**	.25**	-.13*	.21**	.23**
HPLP-Total sub scale score	.52**	.07	.06	.55**	.53**	.53**	.41**	-.27**	.31**	.40**
PANAS-Positive affect.	.31**	-.03	-.11	.37**	.37**	.33**	.29**	-.20**	.27**	.31**
PANAS-Negative affect.	.12*	.33**	.43**	-.18**	-.09	-.06	-.05	.04	-.26**	-.23**

(= p. <.05, ** = p.<.01)*

Table 7.5 Indicating Spearman's rank order correlations (two-tailed) between the demographic variables, age, and the sub-scales of the HPLP-2 (N =75).

Sub-scale	AGE
HPLP-Health responsibility	.11*
HPLP-Interpersonal relations	-.01
HPLP-Nutrition	.09
HPLP-Physical activity	.06
HPLP-Spiritual growth	.01
HPLP-Stress management	.07
HPLP-Total sub scale score	.07

(= p. <.05)*

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Table 7.6. Indicating 2-tailed Spearman's rank order correlations (two-tailed) between the independent variables of the AAQ, with the demographic variable, Age, and the sub-scales of the AAQ, the PANAS, and the HPLP-2 (N = 312)

Sub-scale	AAQ-Secure	AAQ-Avoidant	AAQ-Anx/Amb
AAQ-Secure	.	-.50**	-.31**
AAQ-Avoidant		.	.04
AAQ-Anx/Amb			.
AGE	-.03	.16**	.01
HPLP-Health responsibility	.13*	-.15**	.04
HPLP-Interpersonal relations	.38**	-.39**	-.03
HPLP-Nutrition	.06	-.02	-.14*
HPLP-Physical activity	.14*	.08	-.21**
HPLP-Spiritual growth	.48***	-.31**	-.38**
HPLP-Stress management	.33**	-.29**	.-08
HPLP-Total sub scale score	.30**	-.30**	11
PANAS-Positive affect.	.23**	-.25**	-.12*
PANAS-Negative affect.	-.32**	.20*	.27**

(= p. <.05, ** = p.<.01, ***, p. <.001)*

Table 7.7. Indicating 2-tailed Spearman's rank order correlations (two-tailed) between the demographic variable, age, sub-scales of the PANAS, and the HPLP-2 (N = 312).

	PANAS-Positive affect.	PANAS-Negative affect.
AGE	.12	-.06
HPLP-Health responsibility	.30**	.08
HPLP-Interpersonal relations	.52**	-.05
HPLP-Nutrition	.28**	-.09
HPLP-Physical activity	.39**	-.12*
HPLP-Spiritual growth	.64**	-.18**
HPLP-Stress management	.36**	-.20**
HPLP-Total sub scale score	.64**	-.16**

(= p. <.05, ** = p.<.01, ***, p. <.001)*

Table 7.8. Indicating 2-tailed Spearman's rank order correlations (two-tailed) between the sub-scales of the Health promoting lifestyle profile-2 (HPLP-2). (N = 312).

	HR	IR	NTN	PA	SG	SM	TOT
HPLP-HR (Health responsibility)	.	.30**	.29**	.27**	.34**	.30**	.60**
HPLP-IR (Interpersonal relations)	.	.	.18**	.09	.61**	.31**	.65**
HPLP-NTN (Nutrition)	.	.	.	.39**	.25**	.37**	.60**
HPLP-PA (Physical activity)	.	.	.	.	.25**	.27**	.53**
HPLP-SG (Spiritual growth)	.	.	.	.	.	.58**	.78**
HPLP-SM (Stress management)						.	.68**
HPLP-TOT (Total sub scale score)	.	.	.	.	.	.	.

(= p. <.05, ** = p.<.01, ***, p. <.001)*

Table 7.9. Indicating 2-tailed Spearman's rank order correlations (two-tailed) between the sub-scales of the Health orientation scale (HOS). (N = 312)

Sub-scale	PHC	HIC	HA	HEC	MAU	MFH	IHC	EHC	HE	HS
HOS-PHC	.	.26**	.27**	.34**	.62***	.62***	.37**	-.16*	.15**	.22**
HOS-HIC	.	.	.72**	-.13*	.13*	.13*	.08	-.02	-.17**	-.21**
HOS-HA	.	.	.	-.27**	.03	.01	.01	.06	-.29**	-.34**
HOS-HEC	.	.	.	.	.64**	.70**	.37**	-.06	.56**	.76**
HOS-MAU	.	.	.	.	.	.88**	.40***	-.15**	.40**	.54**
HOS-MFH	.	.	.	.	.	.	.40***	-.15*	.41**	.62**
HOS-IHC	.	.	.	.	.	.	.	-.46**	.20**	.25**
HOS-EHC	.	.	.	.	.	.	.	.	.04	.03
HOS-HE	.	.	.	.	.	.	.	.	.	.63**
HOS-HS	.	.	.	.	.	.	.	.	.	.

(= p. <.05, ** = p.<.01, ***, p. <.001)*

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Table 7.10. Indicating the skewness and kurtosis statistics with standard errors of the unstandardised residuals that were obtained after regressing those dependent variables that were found to differ significantly between attachment groups and were also correlated with negative affect.

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
HOS-HA	.251	.138	-.442	.276
HOS-HE	-.261	.138	.427	.276
HOS-HEC	-.200	.138	-.087	.276
HOS-HIC	.199	.138	-.633*	.276
HOS-HS	-.120	.138	-.433	.276
HPLP-PA	.108	.138	.011	.276
HPLP-SG	-.191	.138	-.603*	.276
HPLP-SM	-.446*	.138	-.026	.276
HPLP-TOT	-.121	.138	.686*	.276

*Indicates non-normality.

Table 7.11 Indicating levels of significance of the unstandardised residuals of those dependent variables found to correlate with negative affect between attachment groups using Levene's test of Homogeneity of variance.

Dependent variable	**Levene statistic**	**df1**	**df2**	**Sig**
HPLP-TOT	.974	2	307	.379
HPLP-SG	.438	2	307	.646
HPLP-SM	2.359	2	307	.096
HPLP-PA	.278	2	307	.758
HOS-HS	.543	2	308	.581
HOS-HIC	1.295	2	308	.275
HOS-HEC	1.791	2	308	.168
HOS-HE	.366	2	308	.694
HOS-HA	.308	2	308	.133

(= p. < .05)*

Key:

HOS- PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

HPLP- HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

Table 7.12. Indicating the results of performing a one-way ANOVA upon the unstandardised residuals of those dependent variables found to correlate with negative affect between attachment groups.

Dependent variable	**df1**	**df2**	**F**	**Sig**
HOS-HA	2	308	3.003	.051
HOS-HE	2	308	10.87	.0001
HOS-HEC	2	308	13.69	.0001
HOS-HIC	2	308	.431	.650
HOS-HS	2	308	6.49	.002
HPLP-PA	2	307	3.45	.033
HPLP-SG	2	307	8.95	.0001
HPLP-SM	2	307	2.23	.110
HPLP-TOT	2	307	8.22	.0001

Table7.13. The plotted results of a two-way ANOVA analysis upon the Health Orientation Scale (HOS) scale scores by gender and attachment group (Gender 1= male, 2 = female), Attachment group (1= Avoidant, 2 = anxious-ambivalent, 3 = Secure).

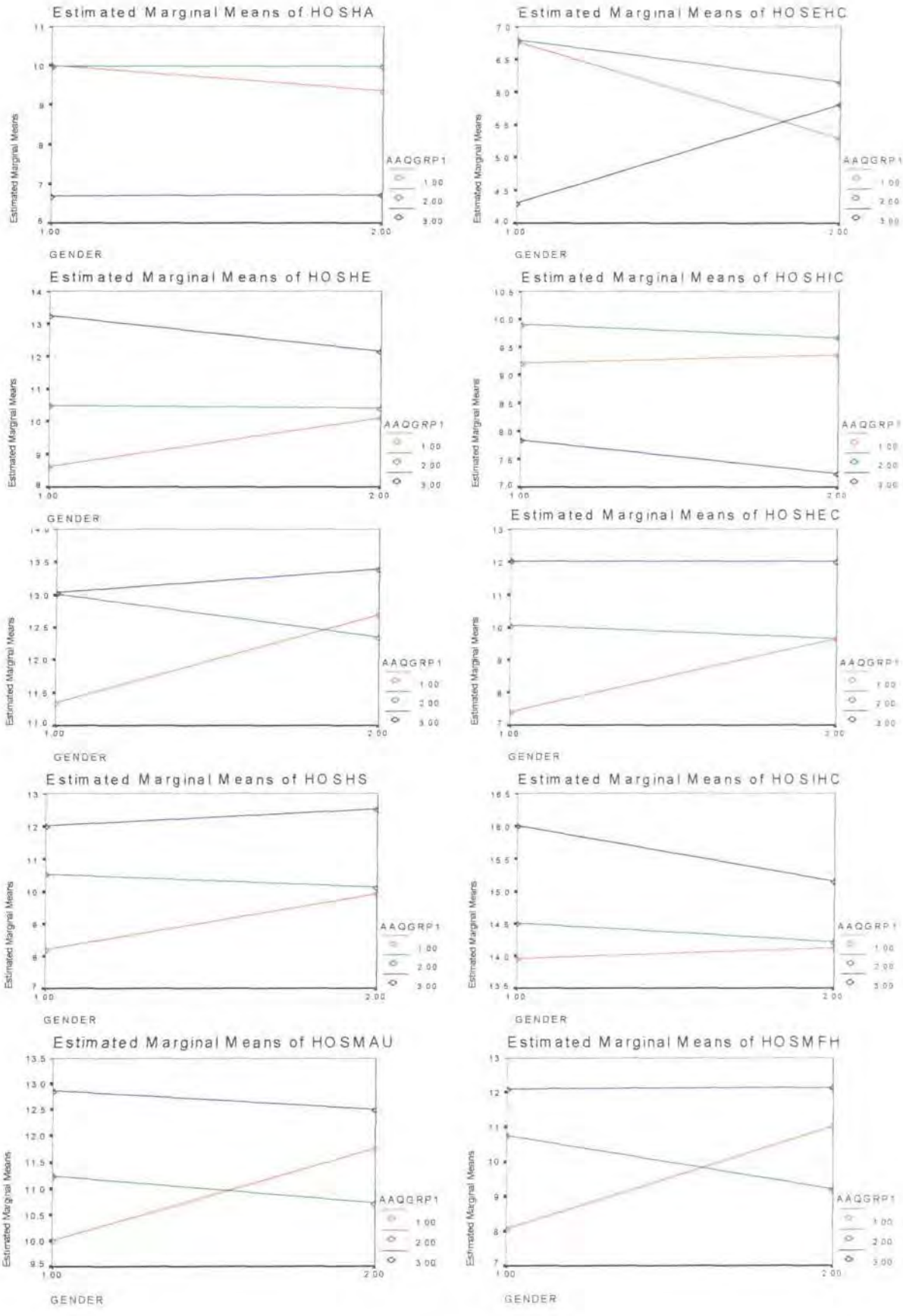

Table7.14. The plotted results of a two-way ANOVA analysis upon the Health Promotion Lifestyle Profile (HPLP-2) scale scores by gender and attachment group (Gender 1 = male, 2 = female), Attachment group (1 = Avoidant, 2 = anxious-ambivalent, 3 = Secure).

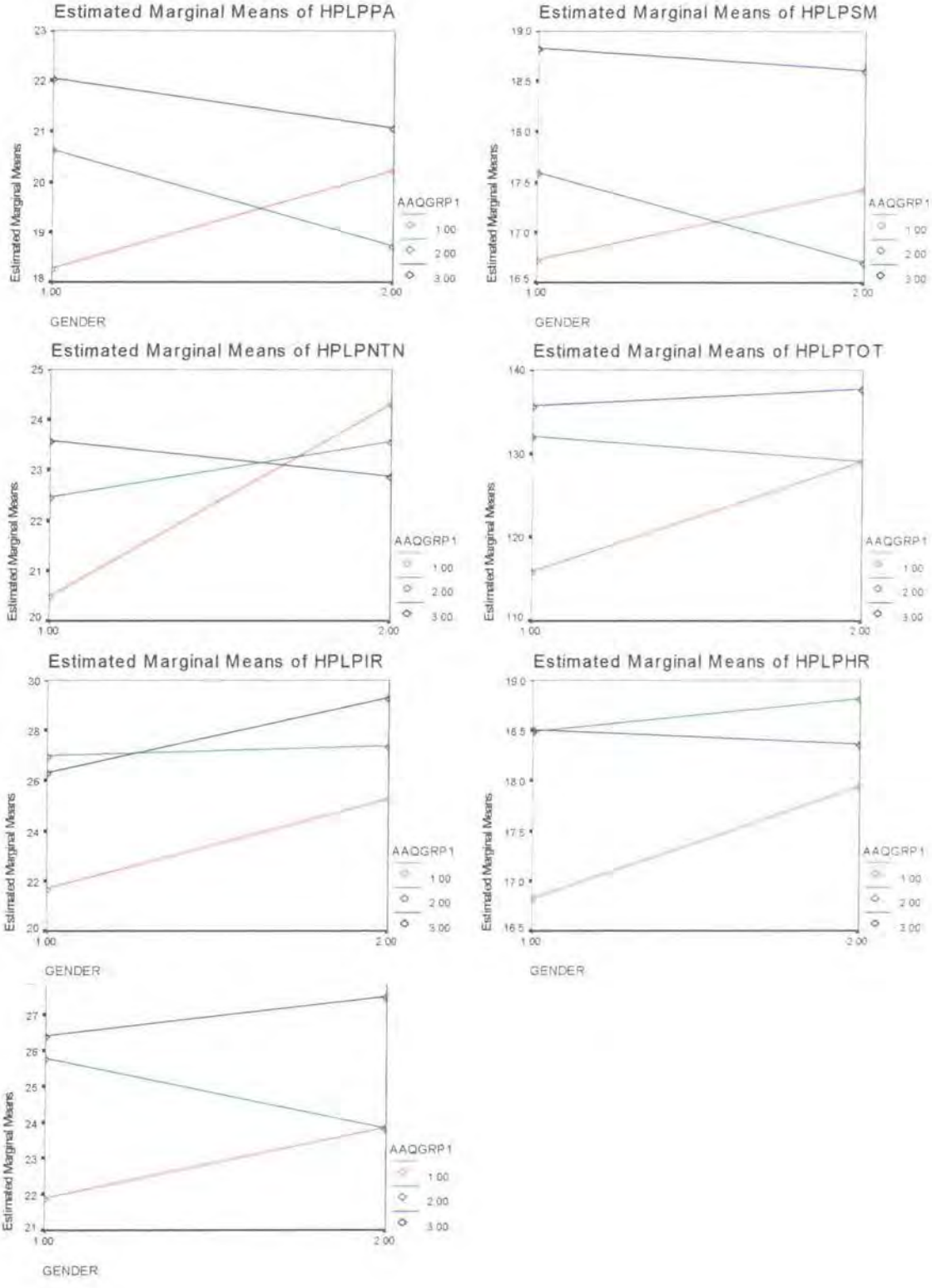

Table 7.15. Indicating the results of a two-way ANOVA analysis upon the Health Orientation Scale (HOS) scores by gender and attachment group (means are in bold, standard deviations are in brackets).

Gender	Group	EHC	HA	HE	HEC	HIC	HS	IHC	MAU	MFH	PHC	N
Males	1. Avoidant	**6.75** (5.40)	**10.00** (4.56)	**8.62** (4.58)	**7.41** (4.04)	**9.20** (5.07)	**8.20** (4.07)	**13.96** (3.77)	**10.00** (4.55)	**8.07** (4.42)	**11.34** (3.68)	29
	2. Anxious	**6.78** (6.78)	**9.98** (3.48)	**10.49** (3.48)	**10.07** (4.03)	**9.91** (5.98)	**10.54** (4.39)	**14.50** (3.75)	**11.24** (4.90)	**10.73** (5.50)	**13.01** (4.79)	57
	3. Secure	**4.30** (3.58)	**6.68** (4.82)	**13.23** (4.27)	**12.03** (3.62)	**7.84** (6.21)	**12.00** (4.20)	**16.00** (3.15)	**12.87** (4.27)	**12.09** (5.02)	**13.03** (4.80)	63
												149
Females	1. Avoidant	**5.28** (3.55)	**9.35** (5.35)	**10.10** (3.45)	**9.66** (3.74)	**9.35** (5.91)	**9.94** (4.64)	**14.12** (3.98)	**11.75** (4.60)	**11.00** (5.80)	**12.69** (4.82)	56
	2. Anxious	**6.11** (3.29)	**9.93** (4.85)	**10.36** (3.86)	**9.54** (3.26)	**9.61** (6.07)	**10.13** (3.62)	**14.22** (3.77)	**10.59** (4.03)	**8.95** (5.10)	**12.29** (4.17)	43
	3. Secure	**5.81** (4.33)	**6.72** (4.16)	**12.16** (2.93)	**12.00** (3.01)	**7.24** (5.55)	**12.52** (3.74)	**15.08** (3.62)	**12.50** (3.99)	**12.12** (3.80)	**13.38** (3.80)	61
												162
DF (2,308)												**311**
F		.3.63	1.06	3.59	3.52	.023	1.99	.475	1.89	3.91	.884	
Sig-F		.028*	.349	.029*	.031*	.977	.138	.622	.153	.021*	.414	

Key:

PHC = Private Health Concern; MFH = Motivation for Health; MAU = Motivation to Avoid Unhealthiness; IHC = Internal Health Control, and EHC = External Health Control. HA = Health Anxiety; HIC = Health Image Concern; HS = Health Status; HE = Health Expectations, and HEC = Health Esteem-Confidence.

Table 7.16. Indicating the means of a two-way ANOVA analysis upon the Health Promoting Lifestyle Profile (HPLP-2) scores by gender and attachment group (means are in bold, standard deviations are in brackets).

Gender	Group	HR	IR	NTN	PA	SG	SM	TOT	N
Males	1. Avoidant	**16.82** (3.48)	**21.69** (5.45)	**20.48** (3.33)	**18.27** (4.52)	**21.90** (4.98)	**16.72** (3.51)	**115.90** (20.19)	29
	2. Anxious	**18.49** (4.59)	**27.00** (3.82)	**22.45** (4.93)	**20.65** (4.79)	**25.81** (4.30)	**17.59** (3.22)	**132.00** (16.19)	57
	3. Secure	**18.50** (4.23)	**26.31** (4.79)	**23.58** (3.96)	**22.04** (4.43)	**26.41** (5.43)	**18.82** (3.65)	**135.70** (18.20)	63
									149
Females	1. Avoidant	**17.94** (4.42)	**25.27** (4.29)	**24.32** (4.57)	**20.23** (4.50)	**23.85** (5.03)	**17.43** (4.08)	**129.05** (16.71)	56
	2. Anxious	**18.62** (3.89)	**27.41** (4.48)	**23.56** (4.63)	**18.72** (4.90)	**23.81** (5.21)	**16.70** (2.75)	**129.02** (16.11)	44
	3. Secure	**18.36** (4.62)	**29.31** (3.77)	**22.86** (4.73)	**21.06** (4.55)	**27.50** (4.12)	**18.60** (3.07)	**137.72** (15.25)	62
									161
DF (2,308)									310
F		.340	3.56	6.97	4.32	4.59	1.69	5.49	
Sig-F		.712	.030*	.001**	.014*	.011*	.187	.005**	

*p. <.05, **p. <.01, ***p <.001

KEY:

HR = Health Responsibility. PA = Physical Activity. SG = Spiritual Growth. IR = Interpersonal Relations. SM = Stress Management. TOT = Health Promoting Total Score

7.2 Appendix B – Questionnaire Booklet

An investigation into Attachment style, health-beliefs and health behaviours

Researcher: Mr Peter Maynard

The Centre for the Study of Counselling (CESCO)

University of Durham

Information for participants

Tel: 01388-454000 x 2257

Dear Sir/Madam,

My name is Peter Maynard. I am a Counselling Psychologist in training currently undertaking a piece of research at the Centre for the Study of Counselling (CESCO) at Durham University. The purpose of this letter is to ask you if you would like to take part in a piece of new psychological research. It is hoped that this research will aid researchers and therapists to further develop health services for future students.

How do I participate in the study?

This booklet contains two Consent forms, three questionnaires, as well as some instructions about how to complete them. Should you decide to participate the whole booklet will take you between 10-15 minutes to complete. People have found that it's best if you complete one section at a time working through each of the questionnaires in turn.

How do I return the questionnaires?

Just give them to me at the end of the session.

What about confidentiality, are my responses anonymous?

Yes, they are. If you decide to participate, you will see that the two consent forms are separate and unattached to the questionnaire booklet. If you want to participate you will need to complete, and keep the first copy of the consent form. In this way your responses can in no way be identified with you.

Do I have to take part?

No. It is very important that you are completely aware that **you are under no obligation at all to take part in this study, that it is completely voluntary**. If part way through completing these questionnaires you do decide not to take part in the study you may withdraw at any time.

What do I do now?

Having read so far and if you still feel happy about participating in this piece of research, could you now turn over the page and **complete and sign both consent forms.** Please detach the first copy of the consent form by just pulling it away from the staple, this is yours to keep. Finally, it is really important that you answer each question, **please do not leave any questions out.**

I am extremely grateful for your help and participation.

Yours sincerely

Peter Maynard
Counselling Psychologist in training

CONSENT FORM FOR AN ADULT TO TAKE PART IN RESEARCH

Name of Research Project:

An investigation into Attachment style, health-beliefs and health behaviours

Name of Researcher: Mr Peter Maynard

Participants name: .....(participant to complete).

I consent to take part in this research project.

I understand that this research is designed to add to psychological knowledge.

I have read the note of explanation about the study that is attached and I have had time to think about it.

I have had the study explained to me.

I have been told that I can withdraw my consent at any stage without giving reason, and without prejudice.

I have been given a copy of this consent form.

Signed..... Date.....

I can confirm that I have explained to the participant the nature of the study, and have given adequate time to answer any questions concerning it.

Signed:..... Date.....

Participant: Please detach this copy from the other consent form, this copy is for your personal records

CONSENT FORM FOR AN ADULT TO TAKE PART IN RESEARCH

Name of Research Project:

An investigation into Attachment style, health-beliefs and health behaviours

Name of Researcher: Mr Peter Maynard

Participants name: .....

I consent to take part in this research project.

I understand that this research is designed to add to psychological knowledge.

I have read the note of explanation about the study that is attached and I have had time to think about it.

I have had the study explained to me.

I have been told that I can withdraw my consent at any stage without giving reason, and without prejudice.

I have been given a copy of this consent form.

Signed..... Date.....

I can confirm that I have explained to the participant the nature of the study, and have given adequate time to answer any questions concerning it.

Signed:..... Date.....

Researchers copy

Personal Information (please complete)

Age .....

Gender (underline/circle) MALE FEMALE

Parents Occupation (if deceased please indicate)
Mother.....
Father.....

Your relationship status (underline/circle)
Married / Cohabiting / Divorced / Widowed / Single (unmarried)

Q1: What course are you participating in at Durham? .....

Q2: Have you suffered a bereavement with the last year with loss of significant relationship? (e.g. parent, sibling, spouse, partner, best friend)
YES NO
(Circle your response)

Q3: What diagnosed physical health problems do you have? (if none leave blank)

.....

.....

Q4: Do you have a physical disability?
YES NO
(Circle your response)

If YES what is your physical disability? .....

Does your physical disability compromise your ability to keep fit?
YES NO
(Circle your response)

Can you now please turn over the page and begin to complete the questionnaires (REMEMBER, SOME OF THE PAGES ARE DOUBLE-SIDED).

Adult Attachment Questionnaire: AAQ

(Shaver & Hazan, 1993)

The following questionnaire, in two brief parts, is concerned with your experiences in romantic love relationships. Take a moment to think about all of the most important romantic relationships you've been involved in. For each relationship think about: How happy or unhappy you were, and how your moods fluctuated. How much you trusted or distrusted each other. Whether you felt that you were too close emotionally or not close enough. The amount of jealousy you felt. How much time you spent thinking about your partner. How attracted you were to the person. How the relationship might have been better. How it ended. (thinking about these good and bad memories of various relationships will help you answer the following questions accurately.)

Part 1

Please read each of the three self-descriptions below (1,2 and 3) and then rate how much you agree or disagree that each one describes the way you generally are in love relationships. Circle one of the numbers below each self-description. (Note: the terms 'close' and 'intimate' refer to psychological or emotional closeness, not necessarily to sexual intimacy.)

1. I am somewhat uncomfortable being close to others; I find it difficult to trust them completely and allow myself to depend upon them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being. (Circle one number below.)

Disagree Strongly	Disagree Moderately	Disagree Slightly	Mixed Not sure	Agree Slightly	Agree Moderately	Agree Strongly
1	2	3	4	5	6	7

2. I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away. (Circle one number below).

Disagree Strongly	Disagree Moderately	Disagree Slightly	Mixed Not sure	Agree Slightly	Agree Moderately	Agree Strongly
1	2	3	4	5	6	7

3. I find it relatively easy to get close to others and I am comfortable depending on them. I don't often worry about being abandoned or someone getting too close to me. (Circle one number below).

Disagree Strongly	Disagree Moderately	Disagree Slightly	Mixed Not sure	Agree Slightly	Agree Moderately	Agree Strongly
1	2	3	4	5	6	7

Part 2 is overleaf

PLEASE CHECK THAT YOU HAVE ANSWERED EVERY QUESTION BEFORE TURNING OVER

Part 2

Below, the three options from the previous page are printed again. Please place a checkmark next to the single alternative that best describes how you feel in romantic love relationships

1. ☐ I am somewhat uncomfortable being close to others; I find it difficult to trust them completely and allow myself to depend upon them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

2. ☐ I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away.

3. ☐ I find it relatively easy to get close to others and I am comfortable depending on them. I don't often worry about being abandoned or someone getting too close to me.

PLEASE CHECK THAT YOU HAVE ANSWERED EVERY QUESTION BEFORE MOVING ON TO THE NEXT QUESTIONNAIRE

Health Survey - HOS

(Snell, Johnson, Lloyd and Hoover, 1990)

Instructions:

The items listed below refer to people's health. Please read each item carefully and decide to what extent it is characteristic of you. Give each item a rating of how much it applies to you using the scale 0-4 .

Please circle your response

		Not at all characteristic of me	Slightly characteristic of me	Somewhat characteristic of me	Moderately characteristic of me	Very characteristic of me
1.	I am very aware of how healthy my body feels.	0	1	2	3	4
2.	Sometimes I wonder what others think about my physical health	0	1	2	3	4
3.	I feel anxious when I think about my health.	0	1	2	3	4
4.	I feel confident about the status of my health.	0	1	2	3	4
5.	I do things that keep me from being physically unhealthy.	0	1	2	3	4
6.	I'm very motivated to be physically healthy.	0	1	2	3	4
7.	I feel that my physical health is something that I am in charge of.	0	1	2	3	4
8.	The status of my physical health is determined mostly by chance happenings.	0	1	2	3	4
9.	I expect that my health will be excellent in the future.	0	1	2	3	4
10.	I am in good physical health.	0	1	2	3	4
11.	I notice immediately when my body doesn't feel healthy.	0	1	2	3	4
12.	I am very concerned about how others evaluate my physical health.	0	1	2	3	4
13.	I am worried about how healthy my body is.	0	1	2	3	4
14.	rarely become discouraged about my health	4	3	2	1	0
15.	I am motivated to keep myself from becoming physically unhealthy	0	1	2	3	4
16.	I am strongly motivated to devote time and effort to my physical health.	0	1	2	3	4
17.	My health is something that I alone am responsible for.	0	1	2	3	4
18.	The status of my physical health is controlled by accidental happenings.	0	1	2	3	4

PLEASE CHECK THAT YOU HAVE MADE A RESPONSE TO EVERY QUESTION

		Not at all characteristic of me	Slightly characteristic of me	Somewhat characteristic of me	Moderately characteristic of me	Very characteristic of me
19.	I believe that the future status of my physical health will be Positive	0	1	2	3	4
20.	My body is in good physical shape.	0	1	2	3	4
21.	I am sensitive to internal bodily cues about my health.	0	1	2	3	4
22.	I'm very aware of what others think of my physical health.	0	1	2	3	4
23.	Thinking about my health leaves me with an uneasy feeling.	0	1	2	3	4
24.	I am pleased with how well and healthy I feel.	0	1	2	3	4
25.	I try to avoid engaging in behaviours that undermine my physical health.	0	1	2	3	4
26.	I have a strong desire to keep myself physically healthy.	0	1	2	3	4
27.	The status of my physical health is determined largely by what I do and don't do.	0	1	2	3	4
28.	Being in good physical health is just a matter of luck.	0	1	2	3	4
29.	I do not expect to suffer health problems in the future.	0	1	2	3	4
30.	I am a well-exercised person.	0	1	2	3	4
31.	I know immediately when I am not feeling in great health.	0	1	2	3	4
32.	I'm concerned about how my physical health appears to others.	0	1	2	3	4
33.	I usually worry about whether I am in good health.	0	1	2	3	4
34.	I have a positive feeling about my health.	0	1	2	3	4
35.	I really want to prevent myself from getting out of shape.	0	1	2	3	4
36.	It's really important to me that I keep myself in proper physical health	0	1	2	3	4
37.	What happens to my physical health is my own doing.	0	1	2	3	4
38.	Being in excellent physical shape has little or nothing to do with luck.	4	3	2	1	0

PLEASE CHECK THAT YOU HAVE MADE A RESPONSE TO EVERY QUESTION

		Not at all characteristic of me	Slightly characteristic of me	Somewhat characteristic of me	Moderately characteristic of me	Very characteristic of me
39.	I will probably experience a number of health problems in the future.	4	3	2	1	0
40.	My body needs a lot of work to be in excellent physical shape.	4	3	2	1	0
41.	I'm aware of changes in my physical health.	0	1	2	3	4
42.	I'm concerned about what other people think of my Physical health	0	1	2	3	4
43.	I feel nervous when I think about the status of my physical health	0	1	2	3	4
44.	I feel that I have handled my health very well.	0	1	2	3	4
45.	I am really motivated to avoid being in terrible shape.	0	1	2	3	4
46.	I strive to keep myself in tip-top physical shape.	0	1	2	3	4
47.	Being in good physical health is a matter of my own ability and effort	0	1	2	3	4
48.	I don't believe that chance or luck play any role in the status of my physical health	4	3	2	1	0
49.	I anticipate that my physical health will deteriorate in the future.	4	3	2	1	0
50.	My physical health is in need of attention.	4	3	2	1	0

PLEASE CHECK THAT YOU HAVE MADE A RESPONSE TO EVERY QUESTION BEFORE MOVING ON TO THE NEXT QUESTIONNAIRE

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☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PHC	**HIC**	**HA**	**HEC**	**MAU**	**MFH**	**IHC**	**EHC**	**HE**	**HS**

The Health-Promoting Lifestyle Profile-2 (HPLP-2)

(Walker, Sechrist & Pender, 1995)

This next questionnaire ask you to indicate how much you engage in the following health-care behaviours.

Please circle your response

		Never	Sometimes	Often	Routinely
1.	I discuss my problems and concerns with.people close to me	1	2	3	4
2.	I choose a diet low in fat, saturated fat, and cholesterol	1	2	3	4
3.	I report any unusual signs or symptoms to a physician or other health professional	1	2	3	4
4.	I follow a planned exercise programme	1	2	3	4
5.	I get enough sleep.	1	2	3	4
6.	I feel that I am growing and changing in positive ways.	1	2	3	4
7.	I praise other people easily for their achievements.	1	2	3	4
8.	I limit my use of sugars and food containing sugar (sweets)	1	2	3	4
9.	I read or watch TV programmes about improving health.	1	2	3	4
10.	I exercise vigorously for 20 or more minutes at least 3 times a (e.g. brisk walking, running, bicycling, aerobic dancing)	1	2	3	4
11.	I take some time for relaxation each day.	1	2	3	4
12.	I believe that my life has a purpose	1	2	3	4
13.	I maintain meaningful and fulfilling relationships with others.	1	2	3	4
14.	I eat 6-11 servings of bread, cereal, rice and pasta each day.	1	2	3	4
15.	I question health professionals in order to understand their. instructions	1	2	3	4
16.	I take part in light to moderate physical activity (e.g. sustained walking for 30-40 minutes 5 or more times a week).	1	2	3	4
17.	I accept those things in my life that cannot change	1	2	3	4
18.	I look forward to the future.	1	2	3	4
19.	I spend time with close friends.	1	2	3	4
20.	I eat 2-4 helpings or pieces of fruit each day.	1	2	3	4
21.	I get a second opinion when I question my health-care provider's advice.	1	2	3	4

PLEASE CHECK THAT YOU HAVE MADE A RESPONSE TO EVERY QUESTION BEFORE TURNING OVER THE PAGE

		Never	Sometimes	Often	Routinely
22.	I take part in leisure-time (recreational) physical activities (e.g. swimming, dancing, bicycling).	1	2	3	4
23.	I concentrate on pleasant thoughts at bedtime.	1	2	3	4
24.	I feel content and at peace with myself.	1	2	3	4
25.	I find it easy to show concern, love and warmth to others.	1	2	3	4
26.	I eat 3-5 helpings of vegetables each day.	1	2	3	4
27.	I discuss my health concerns with health professionals.	1	2	3	4
28.	I do stretching exercises at least 3 times per week.	1	2	3	4
29.	I use specific methods to control my stress.	1	2	3	4
30.	I work toward long-term goals in my life.	1	2	3	4
31.	I touch and am touched by people I care about.	1	2	3	4
32.	I eat 2-3 helpings of milk, yoghurt or cheese each day.	1	2	3	4
33.	I inspect my body at least monthly for physical changes / danger signs	1	2	3	4
34.	I get exercise during usual daily activities (e.g. walking during lunch, using stairs instead of lifts).	1	2	3	4
35.	I balance time between work and play.	1	2	3	4
36.	I find each day interesting and challenging.	1	2	3	4
37.	I find ways to meet my needs for intimacy.	1	2	3	4
38.	I eat only 2-3 helpings from the meat, poultry, fish, dried beans, eggs and nuts group each day.	1	2	3	4
39.	I ask for information from health professionals about how to take good care of myself.	1	2	3	4
40.	I check my pulse rate when exercising.	1	2	3	4
41.	I practice relaxation or meditation for 15-20 minutes daily.	1	2	3	4
42.	I am aware of what is important to me in life.	1	2	3	4
43.	I get support from a network of caring people.	1	2	3	4

PLEASE CHECK THAT YOU HAVE CIRCLED A NUMBER FOR EVERY QUESTION BEFORE TURNING OVER THE PAGE

		Never	Sometimes	Often	Routinely
44.	I read labels to identify nutrients, fats, and sodium content in packaged food.	1	2	3	4
45.	I attend educational programmes on looking after one's personal health.	1	2	3	4
46.	I reach my target heart rate when exercising.	1	2	3	4
47.	I pace myself to prevent tiredness.	1	2	3	4
48.	I feel spiritually connected to a force greater than myself.	1	2	3	4
49.	I settle conflicts between myself and others through discussion and compromise	1	2	3	4
50.	I eat breakfast	1	2	3	4
51.	I seek guidance or counselling when necessary.	1	2	3	4
52.	I expose myself to new experiences and challenges	1	2	3	4

PLEASE CHECK THAT YOU HAVE CIRCLED A NUMBER FOR EVERY QUESTION BEFORE TURNING OVER TO COMPLETE THE NEXT QUESTIONNAIRE.

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☐	☐	☐	☐	☐	☐
SA	**HR**	**EX**	**NTN**	**IS**	**SM**

Positive and Negative Affect Schedule

Watson, Clark & Tellegen (1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer by circling the number that fits your response.

Very slightly or not at all	A little	Moderately	Quite a bit	Extremely	**How much have you felt this way during the past few weeks?**
1	2	3	4	5	Interested.
1	2	3	4	5	Distressed.
1	2	3	4	5	Excited.
1	2	3	4	5	Upset.
1	2	3	4	5	Strong.
1	2	3	4	5	Guilty.
1	2	3	4	5	Scared.
1	2	3	4	5	Hostile.
1	2	3	4	5	Enthusiastic.
1	2	3	4	5	Proud.
1	2	3	4	5	Irritable.
1	2	3	4	5	Alert.
1	2	3	4	5	Ashamed.
1	2	3	4	5	Inspired.
1	2	3	4	5	Nervous.
1	2	3	4	5	Determined.
1	2	3	4	5	Attentive.
1	2	3	4	5	Jittery.
1	2	3	4	5	Active.
1	2	3	4	5	Afraid

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NA ☐ **PA** ☐

PLEASE CHECK THAT YOU HAVE MADE A RESPONSE TO EVERY QUESTION YOU HAVE NOW COMPLETED ALL OF THE QUESTIONNAIRES, I AM VERY GRATEFUL FOR YOUR HELP

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7.3 Appendix C. Ethical Approval Documentation.

12 July 2000

Mr. Peter Maynard
Department of Clinical Psychology
Bishop Auckland General Hospital
Cockton Hill Road
Bishop Auckland
Co. Durham
DL14 6AD

Dear Mr. Maynard,

I am pleased to confirm that your research proposal 'An investigation into attachment style, health-beliefs and health behaviours in an undergraduate sample' was considered by the School of Education Ethics Committee on 31 May 2000 and unanimously approved.

Yours sincerely,

Carolyn Fowler

Mrs. Carolyn Fowler
Administrative Officer